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IDENTIFIERS *Piagetian Theory

ABSTRACT

This selective bibliography cites recent ERIC documents and journal articles focusing on Piagetian theory, research and practice. Entries include title, author and descriptors. Also included are an abstract and ordering information for each ERIC document and an annotation and journal citation for each journal article. Entries are drawn from "Resources in Education" ("RIE"), December 1975 through December 1976, and from "Current Index to Journals in Education" ("CIJE"), February 1976 through December 1976. (MS)

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# PIAGETIAN THEORY, RESEARCH AND PRACTICE: AN ABSTRACT BIBLIOGRAPHY

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January 1977

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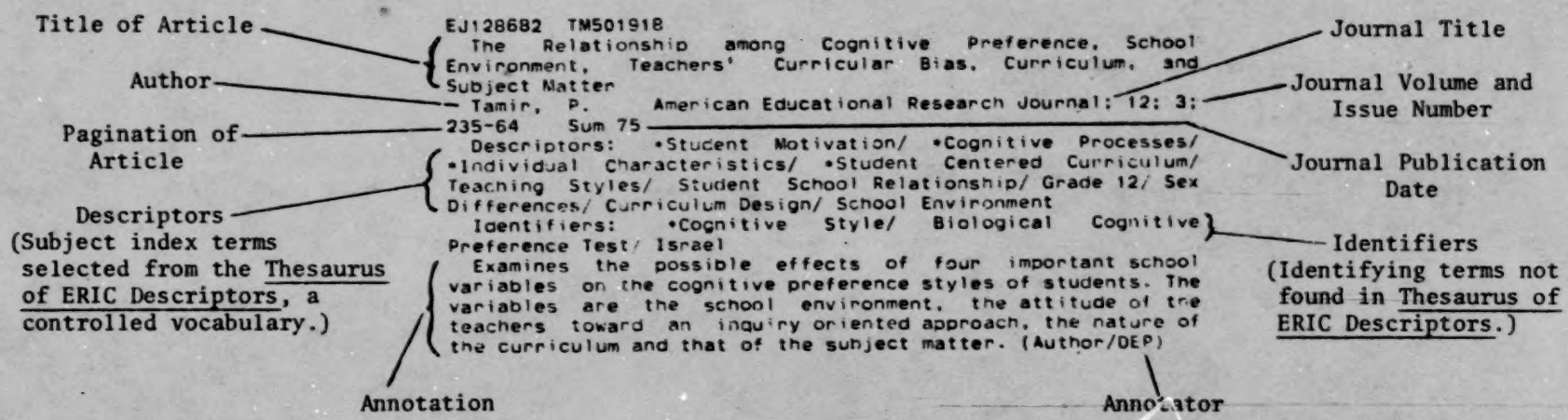
## INTRODUCTION

This selective bibliography cites recent ERIC documents and journal articles focusing on Piagetian theory, research and practice. Entries include resumes from Resources in Education (RIE), December 1975 through December 1976, and citations from Current Index to Journals in Education (CIJE), February 1976 through December 1976.

Most ED-numbered documents are available on microfiche and hard (paper) copy from the ERIC Document Reproduction Service (EDRS). (See order information at the end of this publication.) Journal articles are available only in the journals cited, not through the ERIC system. CIJE provides a list of the complete titles and ordering addresses for all journals indexed.

## I. CITATIONS FROM CURRENT INDEX TO JOURNALS IN EDUCATION

SAMPLE CITATION:


Title of Article
Author
Pagination of Article
Descriptors (Subject index terms selected from the Thesaurus of ERIC Descriptors, a controlled vocabulary.)
Annotation
Journal Title
Journal Volume and Issue Number
Journal Publication Date
Identifiers (Identifying terms not found in Thesaurus of ERIC Descriptors.)
Annotator
EJ128682 TM501918
The Relationship among Cognitive Preference, School Environment, Teachers' Curricular Bias, Curriculum, and Subject Matter
Tamir, P. American Educational Research Journal; 12; 3;
235-64 Sum 75
Descriptors: •Student Motivation/ •Cognitive Processes/ •Individual Characteristics/ •Student Centered Curriculum/ Teaching Styles/ Student School Relationship/ Grade 12/ Sex Differences/ Curriculum Design/ School Environment
Identifiers: •Cognitive Style/ Biological Cognitive Preference Test/ Israel
Examines the possible effects of four important school variables on the cognitive preference styles of students. The variables are the school environment, the attitude of the teachers toward an inquiry oriented approach, the nature of the curriculum and that of the subject matter. (Author/DEP)

EJ141803 SE516995
Concrete and Formal Thinking Abilities in High School Biology Students as Measured by Three Separate Instruments
Lawson, Anton E.; Blake, Anthony J. D. Journal of Research in Science Teaching; 13; 3; 227-235 May 76
Descriptors: *Developmental Tasks/ *Educational Research/ *Learning/ *Secondary School Science/ *Thought Processes/ Biology/ Evaluation/ Science Education/ Secondary Education
Identifiers: *Piaget (Jean)/ Research Reports
Students were classified as formal or concrete-operational using a battery of Piagetian tasks, a biology content examination, and a nonscience content examination. Based on the results it was concluded that Piagetian tasks are relatively content-free and can serve as realistic indicators of concrete and formal thinking abilities. (MLH)

EJ141799 SE516991
An Empirical Derivation of Hierarchies of Propositions Related to Ten of Piaget's Sixteen Binary Operations
Benefield, K. Elaine; Capie, William Journal of Research in Science Teaching; 13; 3; 193-204 May 76
Descriptors: *Educational Research/ *Elementary Education/ *Learning/ *Logical Thinking/ *Secondary Education/ Elementary School Science/ Science Education/ Secondary School Science
Identifiers: *Binary Operations/ Piaget (Jean)/ Research Reports
A group of students from grades four through twelve were tested on ten binary operations in four truth conditions. It was found that propositional operations which had greater inclusiveness or breadth of concepts were more difficult to comprehend. (MLH)

EJ141756 PS504925
Moral Judgment as a Function of Role-Playing Instructions
Vikan, Arne Journal of Genetic Psychology; 128; 1; 109-121 Mar 76
Descriptors: *Elementary School Students/ *Moral Values/ *Role Playing/ *Moral Development/ *Social Factors
Identifiers: *Piaget (Jean)
This study investigated the effect of manipulating social factors by role playing instructions in a moral judgment task administered to children aged 7-10 years. (GO)

EJ141747 PS504916
The Relationship Between Children's Performance on Concept Attainment and Piagetian Conservation Problems
Wright, Robert J.; And Others Journal of Genetic Psychology; 128; 1; 41-48 Mar 76
Descriptors: *Elementary Education/ *Conservation (Concept)/





*Concept Formation/ *Task Performance/ *Cognitive Processes
Identifiers: *Piaget (Jean)
The relationship between concrete operational thought and concept attainment was investigated in second grade students. (GO)

EJ141735 PS504904
Relation of Two Piagetian Stage Transitions to IQ
Kuhn, Deanna Developmental Psychology; 12; 2; 157-161 Mar 76
Descriptors: *Elementary School Students/ *Intelligence Quotient/ *Age Differences/ *Cognitive Development/ *Cognitive Measurement/ Elementary Education/ Psychometrics/ Correlation/ Middle Class
Identifiers: *Piaget (Jean)/ *Developmental Stages
Studied the relationship between mental age and progression toward Piaget's stages of concrete operations and formal operations in a sample of middle class children. Formal operations in preadolescence and adulthood are discussed in relation to IQ. (GO)

EJ141727 PS504896
Perception and Conservation of Length: Piaget and Taponier Revisited
Schiff, William; Saarni, Carolyn I. Developmental Psychology; 12; 2; 98-106 Mar 76
Descriptors: *Elementary School Students/ *Adults/ *Perceptual Development/ *Conservation (Concept)/ *Cognitive Development/ Age Differences/ Behavior Theories
Identifiers: *Piaget (Jean)
The relationships between perception and conservation of length were investigated in a developmental comparison of judgments of length made by 5-year-olds, 8-year-olds and adults. (GO)

EJ141715 PS504881
Problem Solving Potential in Elementary School Children
Moran, Joseph J. Child Study Journal; 6; 1; 39-48 76
Descriptors: *Elementary School Students/ *Problem Solving/ *Transfer Of Training/ *Task Analysis/ *Generalization/ Grade 3/ Elementary Education
Identifiers: *Piaget (Jean)
Third grade children were trained in component processes of problem solving strategies and were subsequently tested on ability to transfer the strategies to novel situations. Results indicate that, contrary to the Piagetian position, generalizable problem solving strategies were acquired at this age level. (Author/GO)

EJ141696 PS504864
Some Origins of Piagetian Theory
Levy, Florence J. Child Welfare; 55; 4; 252-256 Apr 76
Descriptors: •Child Development/ •Research Methodology/ •Observation/ •Theories/ Book Reviews
Identifiers: •Piaget (Jean)
This paper provides an overview of Piaget's observations and notes that of 2337 individual observations in three of his early books, 89 percent cover the sensory motor period and the remaining 11 percent cover the range 2-11 years. (GO)

EJ141690 PS504858
Empathy: Historic and Current Conceptualizations, Measurement, and a Cognitive Theoretical Perspective
Deutsch, F.; Madle, R. A. Human Development; 18; 4; 267-287 75
Descriptors: •Empathy/ •Identification (Psychological)/ •Prosocial Behavior/ •Children/ •Emotional Development/ Cognitive Processes/ Social Relations/ Measurement
Identifiers: Piaget (Jean)/ Projection (Psychological)/ Role Taking/ Decentration
This paper reviews literature on conceptualizations of empathy, examining (1) whether empathetic response is an understanding or sharing of affect; (2) whether empathetic response is a response to an object, another's affect, and/or circumstance; (3) which mechanisms explain empathy; and (4) whether various definitions of empathy require self/other differentiation. (GO)

EJ141679 PS504847
Hypothesis Sampling Systems among Preoperational and Concrete Operational Kindergarten Children
Gholson, Barry; And Others Journal of Experimental Child Psychology; 21; 1; 61-76 Feb 76
Descriptors: •Kindergarten Children/ •Learning Theories/ •Discrimination Learning/ •Feedback/ •Hypothesis Testing/ Elementary Education/ Conservation (Concept)
Identifiers: •Piaget (Jean)
Preoperational and concrete operational kindergarten children received stimulus differentiation training, either with or without feedback, and then a series of discrimination learning problems in which a blank trial probe was used to detect a child's hypothesis after each feedback trial. Piagetian stage theory requires elaboration to account adequately for the data. (GO)

EJ140715 AA523005
Applications of Piaget's Cognitive Development Theory
Saarni, Carolyn I. New York University Education Quarterly; 7; 2; 27-32 W 76
Descriptors: •Cognitive Development/ •Learning Theories/ •Thought Processes/ •Intelligence Tests/ •Educational Strategies/ Learning Experience/ Concept Formation/ Social Relations
Identifiers: •Piaget (Jean)
The work of Jean Piaget stresses the point that intellectual functioning and growth from one stage of cognitive development to the next depends more on the quality of one's experience than on exposure to factual knowledge. Piaget's theoretical model and its implications and applications for the classroom teacher are reviewed. (Editor/RK)

EJ140020 SE516605
Encouraging Logical Thinking In Selected Pre-Engineering Students
McKinnon, Joe W. Engineering Education; 66; 7; 740-744 Apr 76
Descriptors: •Disadvantaged Youth/ •Engineering Education/ •Higher Education/ •Learning Theories/ •Logical Thinking/ College Science/ Educational Research/ Instruction
Identifiers: Piaget (Jean)/ Research Reports
Describes a six-week summer program in which a group of inner-city, high school graduates participated in activities designed to promote logical thinking. Four Piagetian tasks were used as pre- and post-tests and showed that the course promoted significant improvements in logical thought. (MLH)

EJ139918 SE516404
The Effects of Training in the Proportional Reasoning Associated with the Concept of Speed
Boulanger, F. David Journal of Research in Science Teaching; 13; 2; 145-154 Mar 76
Descriptors: •Concept Formation/ •Educational Research/ •Elementary School Science/ •Ratios (Mathematics)/ Elementary Education/ General Science/ Instruction/ Science Education
Identifiers: •Piaget (Jean)/ Research Reports
A group of third graders trained in the proportional reasoning associated with converting distance and elapsed time into speed scored significantly higher on an immediate retention test than the control group (no instruction), but there was no difference between groups on a delayed retention test. (MLH)

EJ139803 PS504788
Observational Learning of Quantity Conservation and Piagetian Generalization Tasks
Charbonneau, Claude; And Others Developmental Psychology; 12; 3; 211-217 May 76
Descriptors: *Elementary Education/ *Conservation (Concept)/ *Observational Learning/ *Cognitive Processes/ Grade 1/ Adults / Cognitive Development
Identifiers: *Piaget (Jean)
Twenty first-graders observed an adult model perform a quantity conservation task. The children were then tested on a series of generalization tasks immediately, after one week, and after three months. The results suggested that the social experience of observation appeared to activate a cognitive restructuring of the children's mental operations. (JMB)

EJ139794 PS504779
Class Inclusion and Multiple Classification in Middle and Old Age
Denney, Nancy Wadsworth; Cornelius, Steven W. Developmental Psychology; 11; 4; 521-522 Jul 75
Descriptors: *Older Adults/ *Middle Aged/ *Classification/ *Cognitive Ability/ Age Differences/ Institutionalized Persons / Adult Development
Identifiers: *Piaget (Jean)
This study examined the performance of middle aged and elderly adults on the Piagetian tests of class inclusion and multiple classification. (GO)

EJ139782 PS504767
A Cognitive Developmental Study of Metaphor Comprehension
Billow, Richard M. Developmental Psychology; 11; 4; 415-423 Jul 75
Descriptors: *Elementary Education/ *Cognitive Development/ *Comprehension Development/ *Metaphors/ Elementary School Students/ Age Differences/ Pictorial Stimuli/ Classification
Identifiers: *Piaget (Jean)
Metaphors of similarity and proportionality, together with a pictorial form of similarity metaphors, proverbs, and several Piaget-type cognitive tasks, were given to 50 boys aged 5 through 13 years. Results indicated that metaphor comprehension is a type of classificatory behavior, the development of which is related to maturing cognitive operations. (GO)

EJ139423 EC081867
Stage Development of Blind Children: A Piagetian View
Gottesman, Milton New Outlook for the Blind; 70; 3; 94-100 Mar 76
Descriptors: *Blind/ *Cognitive Processes/ *Cognitive Development/ *Conservation (Concept)/ *Tactual Perception/ Exceptional Child Research/ Visually Handicapped/ Maturation/ Age Differences
Identifiers: *Piaget (Jean)
Two studies using the concepts and research techniques of J. Piaget were conducted to compare cognitive processes in 45 blind children (2-to-12-years-old) and a random sample of sighted children. (SB)

EJ138478 PS504715
Piaget, Justice and Behavior in the Classroom
Sayre, Steve A.; Ankney, Paul Childhood Education; 52; 5; 238-241 Mar 76
Descriptors: *Ethical Instruction/ *Moral Development/ *Ethics/ *Elementary Education/ Citizenship Responsibility/ Teacher Behavior/ Altruism/ Motivation
Identifiers: *Piaget (Jean)
Discusses moral development in elementary school children and offers some suggestions for helping children reach mature morality conceptions. (ED)

EJ136806 SE516429
Significant Physics Content and Intellectual Development--Cognitive Development as a Result of Interacting with Physics Content
Renner, John W. American Journal of Physics; 44; 3; 218-222 Mar 76
Descriptors: *Cognitive Development/ *College Science/ *Learning Theories/ *Physics/ Higher Education/ Instruction/ Science Education/ Science Activities/ Undergraduate Study
Identifiers: *Piaget (Jean)
Supports the hypothesis that a student must engage a subject in a manner appropriate to his or her present stage of development if he or she is to advance to the next stage of development. Advocates the practice of having introductory physics students observe physical phenomena while they are manipulating equipment in order to foster cognitive development. (Author/CP)

EJ136700 SE516200
Assessment of Cognitive Requirements of Instructional Materials
Hartford, Fred; Good, Ron School Science and Mathematics; 76; 3; 231-237 Mar 76
Descriptors: *Cognitive Development/ *Chemistry/ *Content Analysis/ *Instructional Materials/ *Secondary School Science/ Evaluation/ Science Education/ Secondary Education
Identifiers: *Chemical Education Materials Study/ Piaget (Jean)/ CHEM Study
Evaluates the CHEM study topics of kinetic theory of gases, phase changes, chemical bonus, and equilibrium as to the level of cognitive development required for an understanding of each subject. Advocates an assignment of topics within the range of a student's cognitive ability in an individual study format of instruction. (CP)

EJ136158 EC081340
Learning Disabilities: A Developmental Approach. Symposium No. 11: Response
Adams, Ruth R. Journal of Special Education; 9; 2; 159-65 Sum 75
Descriptors: *Learning Disabilities/ *Reading/ *Classification/ *Diagnostic Teaching/ *Cognitive Development/ Exceptional Child Education/ Teacher Role/ Theories
Identifiers: *Piaget (Jean)
In response to J. Lerner's paper (EC 081 334) on differences between the fields of reading and learning disabilities, the author stresses the importance of a developmental view of reading based on the theories and findings of J. Piaget. (DB)

EJ136017 CS707106
A Critical Age Model of Language Learning
Golub, Lester S. Language Arts; 52; 8; 1097-1103 Nov/Dec 75
Descriptors: *Language Development/ *Nucleation (Language Learning)/ *Language Research/ *Concept Formation/ Language Learning Levels/ Student Writing Models/ Vocabulary Development
Identifiers: *Piaget (Jean)
No language acquisition theory has yet proved to be the correct one.

EJ135867 CS706956
Inferring from the Conditional: An Exploration of Inferential Judgments by Students at Selected Grade Levels
Klein, Marvin L. Research in the Teaching of English; 9; 2; 162-83 F 75
Descriptors: *Logic/ *Cognitive Processes/ *Logical Thinking/ *Language Ability/ Deductive Methods/ Philosophy/ Persuasive Discourse/ Language Research/ Grade 4/ Grade 8/ Grade 12/ Syntax
Identifiers: *Piaget (Jean)

EJ134890 PS504639
Socio-Economic Bias in Piaget's Theory and Its Implications for Cross-Culture Studies
Buck-Morss, Susan Human Development; 18; 1-2; 35-49 75
Descriptors: *Cognitive Development/ *Cognitive Measurement/ *Test Bias/ *Cross Cultural Studies/ Economic Factors/ Social Factors/ Cultural Differences/ Abstract Reasoning/ Logical Thinking
Identifiers: *Piaget (Jean)
The existence of a time lag discovered in the cross-cultural application of Piagetian tests may result from a socio-economic bias in Piaget's theory. Abstract, formal cognition may reflect a particular social structure, embodying the principles of exchange value, reification, and alienation which govern production and exchange in the industrialized West. (JMB)

EJ134888 PS504637
Dialectical Philosophy and Developmental Psychology: Hegel and Piaget on Contradiction
Lawler, James Human Development; 18; 1-2; 1-17 75
Descriptors: *Theoretical Criticism/ *Philosophy/ *Cognitive Development/ *Thought Processes/ Interaction/ Conservation (Concept)/ Logical Thinking/ Intellectual Development
Identifiers: *Piaget (Jean)
Suggests that although Piaget's psychological theory is developmental and dialectical in a general way, the lack of a developed philosophical basis leads to the subordination of a dialectical approach to static, anti-dialectical concepts. Hegel's theory of interaction and contradiction is examined to show that dialectical theory has a precise meaning. (JMB)

EJ134882 PS504631
Piaget in Action
Almy, Millie Young Children; 31; 2; 93-96 Jan 76
Descriptors: *Early Childhood Education/ *Cognitive Development/ *Teaching Methods/ *Educational Theories/ Maturation/ Social Development/ Learning Experience
Identifiers: *Piaget (Jean)
Discusses the way Piaget's theories operate in the classroom. (ED)

EJ133916 AA522248
Intellectual and Moral Development in Adolescence
Langford, P. E.; George, S. British Journal of Educational Psychology; 45 pt3; 330-32 Nov 75
Descriptors: *Educational Psychology/ *Adolescence/ *Intellectual Development/ *Moral Development/ Tables (Data)/ Research Methodology
Identifiers: *Kohlberg (L)/ Piaget (Jean)
This study aimed to investigate the relation between a test of formal operations reasoning and strength at Kohlberg's various types of moral development, using correlational techniques. (Author/RK)

EJ133894 AA522226
Methodological Problems in Conservation Testing with Particular Reference to Volume Conservation
Hobbs, E. D. Alberta Journal of Educational Research; 21; 4; 262-77 Dec 75
Descriptors: *Educational Research/ *Conservation (Concept)/ *Research Methodology/ *Test Validity/ *Cognitive Ability/ Problem Solving/ Evaluation Criteria
Identifiers: *Piaget (Jean)
Methodological problems associated with conservation testing, related to task validity, horizontal decalage, and inference criteria, are isolated and discussed. (Editor)

EJ133525 SE515930
The Development of the Concept of a Standard Unit of Measure in Young Children
Carpenter, Thomas P.; Lewis, Ruth Journal for Research in Mathematics Education; 7; 1; 53-58 Jan 76
Descriptors: *Cognitive Development/ *Elementary School Mathematics/ *Geometric Concepts/ *Measurement/ *Research/ Elementary Education/ Geometry/ Learning/ Learning Theories/ Mathematics Education
Identifiers: *Piaget (Jean)/ Research Reports
Performance of first and second graders on measurement problems indicated that they are unable to relate the measurements of objects using different units to visual comparisons of quantities. (SD)

EJ133524 SE515929
Elementary and Middle School Children's Comprehension of Euclidean Transformations
Kidder, F. Richard Journal for Research in Mathematics Education; 7; 1; 40-52 Jan 76
Descriptors: *Cognitive Development/ *Geometry/ *Learning/ *Mathematics Education/ *Research/ Elementary Secondary Education/ Elementary School Mathematics/ Geometric Concepts/ Secondary School Mathematics/ Transformations (Mathematics)
Identifiers: *Piaget (Jean)/ Research Reports
This study investigated the ability of middle school children to perform Euclidean transformations mentally. The results indicated that the tasks were more difficult than Piagetian theory would indicate. (SD)

EJ133523 SE515928
A Test with Selected Topological Properties of Piaget's Hypothesis Concerning the Spatial Representation of the Young Child
Martin, J. Larry Journal for Research in Mathematics Education; 7; 1; 26-38 Jan 76
Descriptors: *Cognitive Development/ *Elementary School Mathematics/ *Geometric Concepts/ *Learning Theories/ *Research/ Elementary Education/ Learning/ Mathematics Education/ Topology/ Visual Perception
Identifiers: *Piaget (Jean)/ Research Reports
Research designed to determine whether the phenomena observed by Piaget were task specific was performed. The results did not confirm Piaget's notion that topological concepts develop prior to the concepts of Euclidean geometry. (SD)

EJ133522 SE515927
An Analysis of Some of Piaget's Topological Tasks from a Mathematical Point of View
Martin, J. Larry Journal for Research in Mathematics Education; 7; 1; 8-24 Jan 76
Descriptors: *Cognitive Development/ *Learning Theories/ *Mathematics Education/ *Research Reviews (Publications)/ *Topology/ Elementary Secondary Education/ Haptic Perception/ Mathematical Models/ Space Orientation/ Visual Perception
Identifiers: *Piaget (Jean)/ Research Reports
Piaget's theories concerning the child's development of spatial concepts are considered in comparison with related mathematical concepts. The analysis yielded discrepancies between Piagetian and mathematical use of terms. (SD)

EJ133515 SE515920
Physics Teaching: Does it Hinder Intellectual Development?
Griffiths, David H. American Journal of Physics; 44; 1; 81-85 Jan 76
Descriptors: *Cognitive Development/ *College Science/ *Physics/ Educational Research/ Higher Education/ Instruction/ Learning Theories/ Science Education/ Undergraduate Study
Identifiers: *Piaget (Jean)/ Research Reports
Describes an experiment in which physics students were assigned to groups according to Piaget's stages of cognitive development and members of each group were asked to solve an elementary mechanics problem. Analysis revealed that the majority of students, those who were not operating at a formal level of development, may have done more harm than good in attempting to "learn" physics. (CP)

EJ133485 SE515890
Piagetian Perspective on Science Teaching
Phillips, Darrell G. Science Teacher; 43; 2; 30-31 Feb 76
Descriptors: *Cognitive Development/ *Elementary School Science/ *Learning Theories/ *Science Activities/ Elementary Education/ Instructional Materials/ Science Education/ Science Materials
Identifiers: *Piaget (Jean)
Reviews Piaget's stages of development and describes types of educational activities which are appropriate for specific levels of cognitive development. (CP)

EJ133317 SE515700
Relationship of Formal Reasoning to Achievement, Aptitudes, and Attitudes in Preservice Teachers
Lawson, Anton E.; And Others Journal of Research in Science Teaching; 12; 4; 423-431 Oct 75
Descriptors: *Achievement/ *College Science/ *Intellectual Development/ *Science Education/ Educational Research/ Higher Education/ Learning/ Preservice Education
Identifiers: *Piaget (Jean)/ Research Reports
Showed that Piagetian measures of formal reasoning ability are significantly related to achievement, aptitude, and knowledge of the processes of science in a sample of college freshman and sophomore elementary education majors. (MLH)

EJ133308 SE515691
Relationships of Science Subject Matter and Developmental Levels of Learners
Lawson, Anton E.; Renner, John W. Journal of Research in Science Teaching; 12; 4; 347-358 Oct 75
Descriptors: *Intellectual Development/ *Learning Theories/ *Secondary School Science/ *Scientific Concepts/ Developmental Tasks/ Educational Research/ Science Education/ Secondary Education
Identifiers: *Piaget (Jean)/ Research Reports
Secondary science students were tested, using Piagetian tasks to determine their level of intellectual development, and then tested on scientific concepts classified as concrete or formal. Results showed significant multiple correlations between the scores on the tasks and the subject matter tests. (MLH)

EJ133307 SE515690
Sex Differences in Problem-Solving Ability
Graybill, Letitia Journal of Research in Science Teaching ; 12; 4; 341-346 Oct 75
Descriptors: *Educational Research/ *Problem Solving/ *Secondary Education/ *Sex Differences/ Developmental Tasks/ Logical Thinking/ Science Education/ Secondary School Science
Identifiers: *Piaget (Jean)/ Research Reports
Studied was the performance of four Piagetian tests for formal reasoning by students between the ages of 9 and 15. Concluded that boys performed better than girls. (MLH)

EJ133305 SE515688
The Development of Some Physical Science Concepts in Secondary School Students
Robertson, W. W.; Richardson, E. Journal of Research in Science Teaching; 12; 4; 319-329 Oct 75
Descriptors: *Conservation (Concept)/ *Physics/ *Secondary School Science/ *Sequential Learning/ Educational Research/ Learning Theories/ Science Education/ Secondary Education
Identifiers: *Piaget (Jean)/ Research Reports
Studies of the hierarchical attainment of conservation of physics concepts revealed significant differences with respect to age, sex, and grade level in a random sample of seventh and eighth grade students. Conservation of a quantity did not necessarily depend on the prior conservation of its constituent fundamental quantities. (MLH)

EJ133299 SE515682
Cognitive Development and Processes: Review of the Philosophy of Jean Piaget
Mallon, Elizabeth J. American Biology Teacher; 38; 1; 28-33,47 Jan 76
Descriptors: *Cognitive Development/ *Cognitive Processes/ *Instruction/ *Learning Theories/ Elementary School Science/ Elementary Secondary Education/ Instructional Aids/ Science Education/ Secondary School Science
Identifiers: Piaget (Jean)
Suggests that science teachers provide the student with materials in abundance that are appropriate to his stage of cognition. (LS)

EJ133228 SE515541
Teaching the Concept of Speed
Boulanger, F. David School Science and Mathematics; 76; 1; 3-8 Jan 76
Descriptors: *Conceptual Schemes/ *Elementary School Science/ *Intellectual Development/ *Motion/ Elementary Education/ Instructional Materials/ Learning Theories/ Science Education/ Science Activities
Identifiers: *Piaget (Jean)
Presents a series of activities intended to enable teachers to determine if children are ready to be introduced to the concept of speed. Reviews Piaget's theories and the empirical evidence on which the sequence is based. (Author/CP)

EJ133149 PS504593
Production Deficiency in Children's Moral Judgments
Bearison, David J.; Isaacs, Leora Developmental Psychology; 11; 6; 732-737 Nov 75
Descriptors: *Elementary Education/ *Moral Development/ *Cognitive Processes
Identifiers: *Piaget (Jean)
This study was designed to determine why children at the transitional stage of operational development base their moral judgments on the objective consequences of another's act rather than on the other's intentions. The results confirmed the existence of a production deficiency as opposed to a mediational deficiency. (JMB)

EJ133125 PS504569
Intentionality, Degree of Damage, and Moral Judgments
Berg-Cross, Linda Gail Child Development; 46; 4; 970-974 Dec 75
Descriptors: *Primary Education/ *Moral Development/ *Cognitive Development/ *Research Methodology
Identifiers: *Piaget (Jean)
Piagetian moral judgment problems were simplified and tested on first grade children to ascertain whether the simplification would affect the subjects' perceptions of intentionality and punishment. (JMB)

EJ133107 PS504551
A Longitudinal Study of Developmental Synchrony between Conceptual Identity, Seriation, and Transitivity of Color, Number, and Length
Achenbach, Thomas M.; Weisz, John R. Child Development; 46; 4; 840-848 Dec 75
Descriptors: *Serial Ordering/ *Preschool Education/ *Memory/ *Cognitive Development/ Task Performance
Identifiers: *Piaget (Jean)
The relationship among the Piagetian concepts of identity, seriation, and transitivity was explored with preschool subjects. (JMB)

EJ133082 PS504526
Methodological Variables Which Affect Piagetian Conservation Responses
Parish, Charles R.; Wheatley, Grayson H. Journal of Genetic Psychology; 127; 2; 285-295 Dec 75
Descriptors: *Elementary Education/ *Conservation (Concept)/ *Visual Perception/ *Cognitive Development/ Age Differences
Identifiers: *Piaget (Jean)
This study identified new methodological variables which might affect the responses of second and third grade children to Piagetian conservation tasks. (GO)

EJ133064 PS504508
Cognitive Learning in Group Day Care
Canoon, Owen W. Child Care Quarterly; 4; 3; 157-162 F 75
Descriptors: *Early Childhood Education/ *Cognitive Development/ *Learning Activities/ *Group Activities/ Serial Ordering/ Conservation (Concept)/ Number Concepts
Identifiers: *Piaget (Jean)
The inclusion of group activities based on theories of cognitive development within day care settings is urged. Several examples of classroom-tested activities are included. (ED)

EJ132749 FL508564
Toward an Integration of Piaget and Vygotsky: Bilingual Consideration
Bain, Bruce Linguistics; 160; 5-20 Sep 15 75
Descriptors: *Child Development/ *Bilingualism/ *Psycholinguistics/ *Language Development/ *Bilingual Students / Child Language/ Child Psychology/ Language Fluency/ Speech Habits/ Cognitive Development/ Bilingual Education
Identifiers: *Piaget (Jean)/ Vygotsky (Lev)
Two studies which examined the effect of bilingual cultural/educational experience on competence are presented. The language/educational matrix of the child is an influential factor in development. Bilingual children tended to have greater "cognitive plasticity" than monolingual children. A comprehensive theory of human development is sought. (SCC)

EJ131950 UD504053
From Noise to Order: The Psychological Development of Knowledge and Phenocopy in Biology
Piaget, Jean Urban Review; 8; 3; 209-218 F 75
Descriptors: *Cognitive Development/ *Cognitive Processes/ *Knowledge Level/ *Biological Influences/ *Intellectual Experience/ Developmental Psychology/ Genetics/ Language Development/ Learning Experience/ Sensory Experience
Identifiers: *Piaget (Jean)
Shows that one of the most general processes in the development of cognitive structures consists in replacing exogenous knowledge by endogenous reconstructions that reconstitute the same forms but incorporate them into systems whose internal composition is a pre-requisite. Biologically equivalent process is discussed. (Author/AM)

EJ131450 SE515209
Student Assessment and Evaluation of Their Own Work
Boundy, Elizabeth South Australian Science Teachers Journal; 753; 14-15 Sep 75
Descriptors: *Evaluation/ *Performance Contracts/ *Self Evaluation/ *Student Evaluation/ Educational Assessment/ Secondary Education/ Testing
Identifiers: Piaget (Jean)

EJ130988 EA506823
Piaget's Complaint--and Mine: Why Is There No Science of Education?
McKenna, F. Raymond Phi Delta Kappan; 57; 6; 405-409 Feb 76
Descriptors: *Educational Philosophy/ *Educational Theories/ Education/ Educational Research/ Sciences/ Elementary Secondary Education
Identifiers: *Piaget (Jean)

EJ130052 SE515170
Implications of Piaget's Theory for In-Service Education
Tamburrini, Joan Mathematics Teaching; 72; 4-9 75
Descriptors: *Cognitive Development/ *Elementary School Teachers/ *Elementary School Mathematics/ *Inservice Teacher Education/ *Learning Theories/ Activity Learning/ Elementary Education/ Higher Education/ Mathematics Education
Identifiers: *Piaget (Jean)

EJ130025 SE515132
Intellectual Development in Preservice Elementary School Teachers: An Evaluation
Renner, John W.; Lawson, Anton E. Journal of College Science Teaching; 5; 2; 89-92 Nov 75
Descriptors: *Educational Research/ *Intellectual Development/ *Learning Theories/ College Science/ Curriculum Development/ Higher Education/ Instruction/ Science Education
Identifiers: *Piaget (Jean)/ Research Reports
Describes an investigation undertaken to evaluate whether or not the Purdue experimental program, through its concrete curricular materials and inquiry-oriented procedures, had been successful in promoting formal reasoning abilities in its students. Results indicated that concrete curricular materials and problems can promote the development of formal thinking abilities. (Author/GS)

EJ129933 PS504418
Cognitive Development in Adulthood: A Fifth Stage?
Arlin, Patricia Kennedy Developmental Psychology; 11; 5; 602-606 Sep 75
Descriptors: *Cognitive Processes/ *Cognitive Development/ *Problem Solving/ *College Students/ Higher Education/ Adults
Identifiers: *Piaget (Jean)
This study suggests a fifth Piagetian stage and offers empirical evidence in its support. Piaget's traditional fourth stage (formal operations) is operationally defined as the problem-solving stage and the suggested fifth stage as the problem-finding stage. The commonly accepted criteria for a stage model are applied. (JMB)

EJ129905 PS504391
Children's Cognitive Development--Or How Children Draw "Maps"
Weis, Diane P. Child Welfare; 54; 8; 567-580 Sep-Oct 75
Descriptors: *Cognitive Development/ *Early Childhood Education/ *Perceptual Development/ *Stages/ Thought Processes / Maturation
Identifiers: *Piaget (Jean)
Children's cognitive and perceptual development is explained in Piagetian stage theory.

EJ128417 SE515120
The Relationship of Area Conservation to Area Measurement as Affected by Sequence of Presentation of Piagetian Area Tasks to Boys and Girls in Grades One Through Three
Taloumis, Thalia Journal for Research in Mathematics Education; 6; 4; 232-242 Nov 75
Descriptors: *Conservation (Concept)/ *Elementary School Mathematics/ *Geometric Concepts/ *Measurement/ *Research/ Cognitive Development/ Elementary Education/ Learning Theories / Mathematics Education
Identifiers: Piaget (Jean)/ Research Reports
Area and measurement tasks representative of those used by Piaget were administered to 168 primary students. Data were analyzed to determine effects of sex, age, and task sequence. (SD)

EJ128403 SE515105
Physics Problems and the Process of Self-Regulation
Lawson, Anton E.; Wollman, Warren T. Physics Teacher; 13; 8; 470-475 Nov 75
Descriptors: *Critical Thinking/ *Physics/ *Problem Solving/ *Secondary School Science/ College Science/ Higher Education/ Science Education/ Secondary Education
Identifiers: *Piaget (Jean)
Cites shortcomings of typical physics homework problems and encourages the assignment of open-ended problems to extend and combine patterns of reasoning. Provides examples of thought-provoking problems. (CP)

EJ128388 SE515090
Plaudits for Piaget--And Some Implications for Teachers
Creager, Joan C., Ed. American Biology Teacher; 37; 8; 463 Nov 75
Descriptors: *Behavior/ *Cognitive Processes/ *Elementary Secondary Education/ *Instruction/ *Learning Theories/ Behavioral Science Research/ Cognitive Development/ Learning/ Science Education
Identifiers: *Piaget (Jean)
Briefly explains Piaget's theory of intellectual development and its implications for teachers. (LS)

EJ128327 SE515006
Intellectual Development and Elementary Science: Some Implications from Piagetian Research
Howe, Ann; Johnson, Janice Science and Children; 13; 2; 30-31 Oct 75
Descriptors: *Concept Formation/ *Elementary School Science/ *Intellectual Development/ Cognitive Development/ Discovery Learning/ Elementary Education/ Learning Theories/ Learning Processes/ Science Education
Identifiers: Piaget (Jean)
Suggestions are given relating to having plants and animals in the classroom to stimulate development of the understanding of the concept of being alive, a concept not really understood by children under age nine. The research reviewed promotes firsthand experiences to help form concepts of living and nonliving, of identity and causality. (EB)

EJ128245 SE514798
Provocative Opinion: Perspectives on Curricula: Qualitative Analysis Revisited
Brooks, David W.; And Others Journal of Chemical Education; 52; 9; 581-582 Sep 75
Descriptors: *Chemistry/ *College Science/ *Curriculum/ *Opinions/ *Student Reaction/ Curriculum Evaluation/ Higher Education/ Science Education/ Student Motivation
Identifiers: Piaget (Jean)
States that college chemistry teachers can best assess a curriculum by observing how much reinforcement it provides to the students. Also urges that curricula should offer opportunities to instruct the concrete operational student in formal operational thought. (MLH)

EJ128116 PS504356
Cognitive Functioning in Middle and Old Age Adults. A Review of Research Based on Piaget's Theory
Papalia, D. E.; Bielby, D. Del Vento Human Development; 17; 6; 424-443 74
Descriptors: *Adults/ *Older Adults/ *Age Differences/ *Cognitive Ability/ Demography
Identifiers: *Piaget (Jean)
A review of literature on Piagetian cognitive functioning generally noted lower levels of functioning for elderly subjects than for comparison groups of adults. Several possible interpretations for these age differences were offered. The effects of certain demographic variables on performance were also reviewed and inconsistent results were noted. (JMB)

EJ127062 AA521456
Can pre-school children form concepts?
Povey, R. M.; Hill, E. Educational Research; 17; 3; 180-92 Jun 75
Descriptors: *Educational Research/ *Preschool Children/ *Concept Formation/ *Measurement Instruments/ *Educational Testing/ Definitions/ Tables (Data)/ Test Reliability
Identifiers: *Piaget (Jean)
Fifty-six children between the ages of two years four months and four years ten months were given tests relating to the acquisition of both 'specific' and 'generic' concepts. (Author)

EJ126957 SP503954
Piaget and Art Education for the Young Child
Ives, S. William; Ives, Katherine C. Orbit 28; 6; 3; 19-21 Jun 75
Descriptors: *Art Education/ *Art Activities/ *Art Expression/ *Children/ Elementary Education
Identifiers: *Piaget (Jean)

EJ126842 SE514941
More on the Problem of Physics Enrollments
Bates, Gary C. Science Teacher; 42; 8; 29-30 Oct 75
Descriptors: *Enrollment/ *Grading/ *Instruction/ *Physics/ *Secondary School Science/ Abstraction Levels/ Enrollment Trends/ Science Education/ Secondary Education
Identifiers: *Piaget (Jean)
Advocates (1) breaking the lock-step sequencing of courses which places physics at the end of a three-year sequence, (2) adjusting grading procedures to bring them in line with other school courses, and (3) translating abstract concepts into concrete analogies in order to increase physics enrollment. (CP)

EJ126832 SE514925
Smith and Jones: Children's Thinking about some Problems Involving Displacement Along the Number-Line
Galbraith, Mary J. International Journal of Mathematical Education in Science and Technology; 6; 3; 287-302 Aug 75
Descriptors: *Learning Theories/ *Mathematics Education/ *Number Concepts/ *Number Systems/ *Secondary School Mathematics/ Elementary Secondary Education/ Integers/ Instruction/ Research/ Subtraction
Identifiers: Piaget (Jean)
Hypothesizing that subtraction of (negative) integers requires formal operations, the author describes a study of children's understanding of related concepts. The study involves the use of apparatus embodying properties of the number line. (SD)

EJ126723 SE514741
Of Children's Geometrical Representation
Steffe, Leslie P.; Martin, J. Larry Australian Mathematics Teacher; 30; 6; 199-212 Dec 74
Descriptors: *Cognitive Development/ *Geometric Concepts/ *Learning/ *Mathematics Education/ *Visualization/ Elementary Education/ Elementary School Mathematics/ Geometry/ Space Orientation
Identifiers: *Piaget (Jean)
Theory and research concerning the development of spatial concepts by young children are discussed. Results of Martin and Kidder are compared with those of Piaget. (SD)

EJ126652 SE514634
Piagetian Theory and Biology Teaching
Lawson, Anton E.; Renner, John W. American Biology Teacher; 37; 6; 336-343 Sep 75
Descriptors: *Cognitive Development/ *Intellectual Development/ *Learning Theories/ *Science Education/ *Secondary School Science/ Biology/ Secondary Education/ Science Course Improvement Project
Identifiers: Piaget (Jean)/ Science Curriculum Improvement Study/ SCIS
Introduces biology teachers to the central ideas of Piaget's theory of intellectual development. Also presents a scheme of biology instruction and classroom procedures based on a Piaget-related theory of learning. (PEB)

EJ126602 SE514554
Sex Differences in Concrete and Formal Reasoning Ability as Measured by Manipulative Tasks and Written Tasks
Lawson, Anton E. Science Education; 59; 3; 397-405 Jul-Sep 75
Descriptors: *Critical Thinking/ *Intellectual Development/ *Secondary School Science/ *Sex Differences/ Conservation (Concept)/ Educational Research/ Science Education/ Secondary Education
Identifiers: *Piaget (Jean)/ Research Reports
Two Piagetian tests which require manipulation, two conservation tasks, and the Longeot pencil and paper formal reasoning test were administered to 62 high school biology students. For all measures the males' mean level was higher than that of the females. (MLH)

EJ126601 SE514553
Training Effects and Generalization of the Ability to Control Variables in High School Biology Students
Lawson, Anton E.; And Others Science Education; 59; 3; 387-396 Jul-Sep 75
Descriptors: *Critical Thinking/ *Intellectual Development/ *Learning Theories/ *Secondary School Science/ Biology/ Educational Research/ Science Education/ Secondary Education
Identifiers: *Piaget (Jean)/ Research Reports
Three Piagetian tests of formal reasoning were administered to 65 high school biology students after half of this group had been exposed to a training session involving the control of variables. Among the results of this study was that the concrete operational students benefited more from the training session than did the formal operational students. (MLH)

EJ126589 SE514473
A Geometrical Model for Propositional Algebra
Ghose, J. K.; Ogborn, Jon Mathematics Teaching; 70; 52-55 Mar 75
Descriptors: *Geometric Concepts/ *Logic/ *Mathematical Models/ *Mathematics Education/ *Symmetry/ Algebra/ Geometry
Identifiers: *Piaget (Jean)

EJ126476 SE514033
Piagetian Cognitive Development and Achievement in Science
Sayre, Steve; Ball, Daniel W. Journal of Research in Science Teaching; 12; 2; 165-174 Apr 75
Descriptors: *Academic Achievement/ *Cognitive Development/ *Developmental Tasks/ *Learning Theories/ *Secondary School Science/ Educational Research/ Predictor Variables/ Science Education/ Secondary Education
Identifiers: Research Reports/ Piaget (Jean)
This investigation explored the relationship between scholastic grades in science in junior and senior high school students and ability of students to perform formal operational tasks. The findings indicated that at certain grade levels and in certain subject areas, public school science students who demonstrate formal operational logic tend to receive higher grades than non-formal operational students. (MLH)

EJ126475 SE514032
Group Tests for Distinguishing Formal From Concrete Thinkers
Rowell, J. A.; Hoffmann, P. J. Journal of Research in Science Teaching; 12; 2; 157-164 Apr 75
Descriptors: *Cognitive Development/ *Developmental Tasks/ *Group Tests/ *Secondary School Science/ Educational Research/ Science Education/ Secondary Education
Identifiers: *Piaget (Jean)/ Australia/ Research Reports
High school students in South Australia were administered in group fashion the pendulum and the chemical color change developmental tasks. The major conclusion of this study is the fact that it is possible to translate into group form, administer, and assess rapidly and with considerable reliability Piagetian problem indicators of developmental level. (MLH)

EJ126474 SE514031
Evaluation of a Child-Structured Science Curriculum Using the Intellectual Models of Piaget and Guilford
Espejo, Mila; And Others Journal of Research in Science Teaching; 12; 2; 147-155 Apr 75
Descriptors: *Curriculum/ *Elementary School Science/ *Learning Theories/ Educational Research/ Elementary Education / Science Education
Identifiers: *Child Structured Learning in Science/ CSLS/ Research Reports/ Piaget (Jean)/ Guilford
First graders who had been exposed to the Child-Structured Learning in Science curriculum (CSLS) were compared according to their achievement on a cognitive test instrument to two groups who had not had the CSLS treatment. Results revealed that a greater percentage of children in the CSLS treatment group performed on a concrete-operational level, rather than a pre-operational level. (MLH)

EJ126120 HE506768
Stages of Development: Help or Hindrance in Educating Young Children?
Satterly, David Universities Quarterly; 29; 4; 379-88 F 75
Descriptors: *Elementary Education/ *Early Childhood Education/ *Developmental Psychology/ *Psychoeducational Processes/ *Teaching Models/ Curriculum Design/ Educational Psychology/ Human Development
Identifiers: *Developmental Stages/ Piaget (Jean)
It is argued that the usefulness of specific models of stages of psychological development in informing the teacher's task are open to question. The author notes evidence that uncritical acceptance of Piaget's theories has served to exert a depressing effect on teachers' expectations of the competence of young children. (JT)

EJ126014 EC073722
Piagetian Assessment of Conservation Skills in the Gifted First Grader
Rader, John R. Gifted Child Quarterly; 19; 3; 226-9 F 75
Descriptors: *Gifted/ *Primary Education/ *Conservation (Concept)/ *Intelligence Quotient/ *Identification/ Exceptional Child Research/ Intelligence Tests/ Cognitive Development
Identifiers: Piaget (Jean)

EJ125188 TM501873
Conservation of Weight in Infants
Mounoud, Pierre; Bower, T. G. R. Cognition; 3; 1; 29-40 74/75
Descriptors: *Conservation (Concept)/ *Infants/ *Infant Behavior/ *Measurement/ Child Development/ Perceptual Motor Learning
Identifiers: Piaget (Jean)
Conservation of weight is known to be achieved at a conceptual level at about 9 years of age. Infant behavior seems to indicate that between 6 and 18 months of age they develop a sensorimotor form of conservation. (Author/RC)

EJ125187 TM501872
Interactional Aspects of Cognitive Organization
Langer, Jonas Cognition; 3; 1; 9-28 74/75
Descriptors: *Cognitive Processes/ *Cognitive Development/ *Interaction/ *Child Development/ *Environmental Influences/ Imitation/ Early Experience/ Early Childhood Education
Identifiers: Piaget (Jean)
Formulates further propositions towards a comprehensive structural developmental theory of cognitive change with focus on: a) organization of subject's assimilatory operations and accomodatory figurations; b) intrinsic coordinations between the theoretical and empirical cognitions constructed, respectively, by these two kinds of functional structures; and c) cognitive developmental changes produced by intrinsic coordinations. (Author/RC)

## II. RESUMES FROM RESOURCES IN EDUCATION

### SAMPLE RESUME:

ERIC Document Number (ED#)

ED107690 95 TM004504

Title

The Effects of a Schools Without Failure Program Upon Classroom Interaction Patterns, Pupil Achievement and Teacher, Pupil and Parent Attitudes (Summary Report of First Year of Program).

Author(s)

Masters, James R.; Laverty, Grace E.
Pennsylvania State Dept. of Education, Harrisburg.

Sponsoring Agency (Agency responsible for initiating, funding, and managing the research project.)

Sponsoring Agency: National Center for Educational Research and Development (DHEW/OE), Washington, D.C.
Bureau No.: BR-2-C-070
Grant No.: OEG-3-72-0051

Date Published and Pagination

Publ. Date: Feb 74 Note: 25p.; For related documents, see TM 004 495-503

EDRS Price (Price through ERIC Document Reproduction Service. Order by ED#. "MF" means microfiche. "HC" means hard copy. When listed "not available from EDRS," other sources are cited above.)

EDRS Price MF-$0.76 HC-$1.58 PLUS POSTAGE

Descriptors (Subject index terms selected from the Thesaurus of ERIC Descriptors, a controlled vocabulary.)

Descriptors: Academic Achievement/ Academic Failure/ Behavior Change/ Classroom Observation Techniques/ Comparative Analysis/ Decision Making Skills/ Discipline/ Elementary Education/ Elementary School Students/ Humanistic Education/ Inservice Teacher Education/ Parent Attitudes/ *Program Evaluation/ *School Attitudes/ *Student Attitudes/ Student Teacher Relationship/ *Teacher Attitudes/ Teacher Education/ Tests

Identifiers (Identifying terms not found in the Thesaurus of ERIC Descriptors.)

Identifiers: Glasser (William)/ New Castle Pennsylvania School District/ *Schools Without Failure

Abstract

This document summarizes an evaluation of William Glasser's Schools Without Failure (SWF) program carried out during the program's first year of operation in the New Castle, Pa. School District. Ten elementary schools were paired on the basis of size, socioeconomic status, and pupils' past achievement. One school of each pair was randomly assigned to begin teacher training and implementation of SWF; the other school of each pair became a control school. Pre- and posttesting was used to assess pupil achievement and attitudes toward self, school, and others and teacher and parent attitudes toward educational issues. Instructional session and SWF school classroom meeting interactions were measured by the Expanded Category System and the Reciprocal Category System. Results indicated that the program had its major impact on teachers. Little difference existed in the achievement of pupils in SWF and control schools. Some positive changes in SWF school primary pupil attitudes toward being in school and toward doing difficult school work were found. Also, positive changes occurred in SWF school intermediate pupil attitudes toward the importance of doing assignments and learning. In SWF schools the number of pupils referred to principals for disciplinary reasons was reduced. (Author/RC)

Abstractor

ED127162 SE021192
An Experimental Study of the Placement of Classification Skills in the Science-A Process Approach Curriculum Employing Piaget's Theory of Cognitive Development.
Johnson, Theodore M.; Alfke, Dorothy
Publ. Date: Apr 76 Note: 22p.; Paper presented at the annual meeting of the National Association for Research in Science Teaching (49th, San Francisco, California, April 23-25, 1976); Contains some broken type
EDRS Price MF-$0.83 HC-$1.67 Plus Postage.
Descriptors: *Classification/ *Cognitive Development/ Curriculum/ *Educational Research/ *Elementary Education/ Elementary School Science/ Learning Theories/ Science Course Improvement Project/ Science Education
Identifiers: *Piaget (Jean)/ Research Reports/ *Science A Process Approach
The purpose of this study was to investigate whether success in the Science - A Process Approach (SAPA) process of classification designed for primary grade children is contingent upon the children's developmental level as defined by Piaget's theory. The investigators sought to determine whether children who had reached the concrete operational stage of intellectual development are more likely to succeed on SAPA exercises requiring multi-classification ability than their primary classmates who are at the defined pre-operational level. Thirty children were assigned to either pre-operational or concrete operational on the basis of two diagnostic instruments and their mental ages were determined with another instrument. Matched pairs, one from each developmental state, were formed with each child having a mental age score within one standard error of one another. These matched pairs were assigned randomly to one of two teacher instructional groups and taught nine sequentially-arranged classification exercises as prescribed by SAPA. A two-factor analysis of variance with developmental level crossed with teachers was used to analyze the scores from the nine individually administered competency measures accompanying the SAPA classification exercises. The concrete operational group performed significantly better than the pre-operational group in three exercises requiring hierarchical classification and in four exercises requiring exhaustive sorting. (Author/MH)

ED127038 PS008772
We Like to Make Pictures: Maintaining Creative Expression in Primary Level Pupils. Research Monograph No. 16.
Henderson, Linda Levy; And Others
Florida Univ., Gainesville. P. K. Yonge Lab. School.
Publ. Date: Feb 76 Note: 78p.
Available from: P. K. Yonge Laboratory School, 1080 S. W. 11th Street, Gainesville, Florida 32611 (no charge)
EDRS Price MF-$0.83 HC-$4.67 Plus Postage.
Descriptors: *Art Education/ Art Materials/ *Creative Expression/ Creativity Tests/ *Egocentrism/ Elementary Education/ Elementary School Students/ Humanistic Education/ Kindergarten Children/ *Primary Education/ *Teaching Methods/ Thought Processes/ *Verbal Communication/ Verbal Stimuli
Identifiers: Artistic Thought/ *Piaget (Jean)
The purpose of this study was to examine the effects of verbal experience on children's creative expression and to develop more precise means for interpreting and evaluating children's art. Two questions were of interest: (1) Does the experimental approach described here enable children to resist forces tending to cause stereotyped artistic expression? and (2) Does verbal stimulation help children express artistically concepts of greater complexity? Subjects were eighty-five 5- and 6-year-olds who were divided into an experimental and a control group. Each group had art instruction once a week for a year; the control group was provided with a humanistic discussion-based art program and the experimental group was exposed to an intense verbal experience specifically designed to encourage the child to state his egocentric thought as verbal symbols. Results suggested that children could learn to resist forces tending toward stereotyped art expression. Other results, relative to expression of concepts, were not statistically significant. Included with the study is a detailed discussion relating creative expression to the levels of child development. An appendix describes the program used with the control group, titled the Humanistic Approach to Art Education in the Elementary School. (MS)

ED127037# PS008769
Piaget, Children, and Number: Applying Piaget's Theory to the Teaching of Elementary Number.
Kamii, Constance; DeVries, Rheta
National Association for the Education of Young Children, Washington, D.C.
Publ. Date: 76 Note: 52p.
Available from: National Association for the Education of Young Children, 1834 Connecticut Avenue, N.W., Washington, D.C. 20009 (Paper, $2.00, plus $0.20 for postage and handling)
Document Not Available from EDRS.
Descriptors: Classroom Games/ *Concept Formation/ *Conservation (Concept)/ *Early Childhood Education/ Mathematical Logic/ Music Activities/ *Number Concepts/ Set Theory/ *Teaching Techniques
Identifiers: *Piaget (Jean)
This paper proposes a method for teaching number applying the conservation theory of Piaget in the classroom. It is suggested that number facts cannot be taught by social transmission, since there is a fundamental distinction between logico-mathematical and social knowledge. Conservation cannot be taught to non-conservers, but there are ways to utilize and guide children's natural interest in number. Workbook exercises, math time and cuisenaire rods are not among these. Recommended teaching techniques include: (1) teach number concepts when they are useful and meaningful to a child, when the child feels a need and interest in number arising out of his daily activities; (2) use language that illustrates logical quantification or the comparison of groups (i.e., "Bring enough straws for all the children"); (3) encourage children to verify an answer among themselves; (4) encourage children to make sets with movable objects; (5) figure out how children are thinking; and (6) encourage children in a general way to put all kinds of objects, events, and actions into relationships. Snack time, distribution of materials, group games, etc. can be utilized in the teaching of elementary number concepts. (MS)

ED127035# PS008767
Summary of Research on Prekindergarten Programs. Research Brief.
Doob, Heather Sidor
Educational Research Service, Washington, D.C.
Publ. Date: 76 Note: 89p.
Available from: Educational Research Service, Inc., 1815 North Fort Myer Drive, Arlington, Virginia 22209 (Paper, $8.00, payment must accompany orders of less than $10.00)
Document Not Available from EDRS.
Descriptors: *Cognitive Measurement/ *Disadvantaged Youth/ Handicapped Children/ Home Programs/ *Intelligence Tests/ Intervention/ Migrant Child Care Centers/ Mobile Classrooms/ *Preschool Education/ *Preschool Evaluation/ Preschool Programs/ Preschool Tests/ Readiness/ *Research
Identifiers: Piaget (Jean)/ *Project Head Start/ Project Home Start
This analysis of current research on prekindergarten programs for the disadvantaged covers more than 40 evaluative studies drawn from public school systems, program developers and federal agencies throughout the U.S. Findings from most of the studies included were made public between 1970 and 1975, although some earlier research is included. A tabular summary of each study is presented, describing program type, evaluation instruments used and results. This is followed by fuller descriptions of the individual studies which comprise the main section of the volume. School and home-based programs, migrant education and mobile classrooms are covered, as well as programs for the learning disabled and mentally retarded. A brief introduction discusses problems in the evaluation of research on prekindergarten education. An extensive bibliography, of both published and unpublished literature, is furnished for in-depth study of specific aspects of preschool education. (BF)

ED127034# PS008766
Early Childhood Education: It's an Art? It's a Science?
Andrews, J. D., Ed.
National Association for the Education of Young Children, Washington, D.C.
Publ. Date: 76 Note: 213p.; Outstanding presentations presented at the Annual Conference of the National Association for the Education of Young Children (Dallas, Texas, November 12-15, 1975)
Available from: National Association for the Education of Young Children, 1834 Connecticut Avenue, N. W., Washington, D. C. 20009 (Paper, $4.00; discount on quantity orders)
Document Not Available from EDRS.
Descriptors: Affective Behavior/ American Indians/ Art/ Biculturalism/ Bilingual Education/ *Child Development/ *Conferences/ Day Care Services/ *Early Childhood Education/ *Educational Change/ Family Involvement/ Mathematics Instruction/ Mental Health Programs/ Parent Education/ Pediatrics Training/ *Preschool Education/ Public School Systems/ Spanish Speaking/ Values
Identifiers: *Child Development Associates/ *Piaget (Jean)/ Project Head Start
This booklet contains selected presentations from the 1975 Annual Conference of the National Association for the Education of Young Children (NAEYC). The collection is addressed to people who are interested in improving the quality of growth-supporting services available to children and their families in the United States. Titles are: "Head Start: Not a Program but an Evolving Concept"; "Education: A Family Responsibility" (concerned with American Indian education); "Seminars in Parenting Preschoolers"; "Piaget's Affective System--An Appraisal"; "When Children Talk Back--LISTEN"; "Preschool and Early Math Instruction: A Developmental Approach"; "Bilingual/Bicultural Education: Separating Facts from Fiction"; "Should the Public Schools Control Child Care Services?"; "Values Examination: A Crucial Issue in Early Childhood Education"; "Training Pediatricians in Mental Health Aspects of Early Child Care"; "The Child Development Associate Consortium's Assessment System"; "Early Childhood Education--It's a Science"; and "Early Childhood in Art." (MS)

ED126522 CS202853
Developmental Structures in Fantasy Narratives.
Sutton-Smith, Brian; And Others
Publ. Date: 75 Note: 21p.; Paper presented at the Annual Meeting of the American Psychological Association (83rd, Chicago, August 30-September 3, 1975); Not available in hard copy due to marginal legibility of original document
EDRS Price MF-$0.83 Plus Postage. HC Not Available from EDRS.
Descriptors: *Child Development/ Children/ Early Childhood Education/ Evaluation Methods/ *Fantasy/ *Folk Culture/ Imagination/ Mythology/ Social Development/ *Socialization/ *Story Telling
Identifiers: Levi Strauss (Claude)/ Piaget (Jean)/ Propp (Vladimir)
This paper provides an analysis of plot structure in stories freely narrated by five-to-ten-year-old elementary school children. The question was raised whether the stories, collected over a two-year period, would reflect the children's transition from home to school by a shift from a private to a public character. Structural analyses of plot, derived from the theories of Claude Levi-Strauss, Vladimir Propp, and Jean Piaget, were shown to have value in detecting developmental shifts in the children's narration. Subjecting the stories to the type of analysis used in the evaluation of mythology and folk tales revealed the children's initiation into public legend. Thus, the content of the children's fantasies was shown to reflect the basis of cultural mythology and to provide an index of the level of socialization into that mythology. (KS)

ED128478 CS002843
Implications in the Theories of Lev Vygotsky, Jean Piaget, George Kelly and Erik Erikson for the Assessment of Instruction in College Reading.
Chaplin, Miriam Thomas
Publ. Date: 76 Note: 330p.; Ed.D. Dissertation, Rutgers University The State University of New Jersey
Available from: University Microfilms, P.O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 76-17,308, MF $7.50, Xerography $15.00)
Document Not Available from EDRS.
Descriptors: College Programs/ Doctoral Theses/ *Educational Theories/ Higher Education/ *Reading Instruction/ *Reading Programs/ Statistical Surveys
Identifiers: Erikson (Erik)/ Kelly (George)/ Piaget (Jean)/ Status Surveys/ Vygotsky (L S)
The interpretation a mature reader gleans from written language is a reflection of his linguistic, cognitive, emotional, and experiential level. In providing adequate instruction, therefore, instructors must be knowledgeable about the developmental sequences characteristic of each of these domains. The theories of L.S. Vygotsky, George Kelly, Jean Piaget, and Erik Erikson deal individually with specific aspects of these developmental sequences; collectively, they provide a basis for a comprehensive analysis of student behaviors in an academic environment. After examining these theories, a separate chapter is devoted to practical applications that provide a framework for the teaching of college reading. The study also includes a status survey of the philosophies and practices of current programs in 200 four-year colleges and universities in the United States. (Author/AA)

ED126449 CS002810
Practical Applications of Piagetian Theory to College Reading Instruction.
Chaplin, Miriam T.
Publ. Date: 76 Note: 15p.; Paper presented at the Annual Symposium of the Jean Piaget Society (Philadelphia, Pennsylvania, June 14, 1976)
EDRS Price MF-$0.83 HC-$1.67 Plus Postage.
Descriptors: *Abstract Reasoning/ College Instruction/ Concept Formation/ *Content Reading/ Higher Education/ Reading Assignments/ Reading Comprehension/ Reading Improvement/ *Reading Instruction
Identifiers: *Piaget (Jean)/ *Piagetian Theory
It is generally assumed that students possess the ability to apply abstract reasoning to content material in a variety of disciplines when they enter college. Yet many college students have not reached the level of formal operations defined by Jean Piaget; thus they experience difficulty in coping with their work. A solution to this dilemma can be found in the provision of content-reading activities based upon the principles found in Piagetian theory. Suggestions are made for practical applications of aspects of this theory to college reading instruction. (Author/AA)

ED126378 CG010664
The Developmental Dependency Between Two Piagetian Spatial Operations.
Guay, Roland B.
Publ. Date: 76 Note: 19p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Francisco, California, April 19-23, 1976)
EDRS Price MF-$0.83 HC-$1.67 Plus Postage.
Descriptors: Age Differences/ *Child Development/ *Developmental Tasks/ *Learning Processes/ *Mental Development / *Neurological Organization/ Research Projects/ Sex Differences/ *Space Orientation
Identifiers: *Piaget (Jean)
Piaget and Inhelder, in The Child's Conception of Space (1956), described the coordination of viewpoints (CV) spatial operation as one of the prerequisites to the development of the rotation and development (RD) spatial operation. This study investigated this developmental dependency notion and also evaluated the effects of age and sex on the development of the CV and RD operations. Two 16-item instruments, one for each operation, were administered individually to 112 children, eight females and eight males at seven age levels, 7 through 13. In contrast to Piaget's and Inhelder's writings, the data revealed that some of the components of an RD operation seem to be among the major prerequisites to the development of the CV operation. Further analysis indicated that the capacity for CV and RD operational functioning appear to be greater in older children than in younger children and greater in males than in females. (Author)

ED125784 PS008696
A Matrix Test of Referential Communication.
Greenspan, Stephen; Barenboim, Carl
Publ. Date: Jun 75 Note: 39p.; Paper presented at the Annual Symposium of the Jean Piaget Society (5th, Philadelphia, Pennsylvania, June 13-14, 1975)
EDRS Price MF-$0.83 HC-$2.06 Plus Postage.
Descriptors: *Egocentrism/ *Elementary Education/ Elementary School Students/ Emotional Adjustment/ *Emotionally Disturbed/ Individual Tests/ Psychometrics/ Socioeconomic Status/ *Sociometric Techniques/ *Verbal Communication
Identifiers: *Piaget (Jean)/ *Referential Communication
This paper reports on two studies that were designed to provide preliminary data on the psychometric properties of a new matrix test of referential communication and to explore the validity of the test as a predictor of both developmental level and socioemotional adjustment of normal and emotionally disturbed children. Referential communication is defined as the process of verbal interaction in which one person imparts to another person information which the second person needs in order to carry out some task. Studies by Piaget and others are cited which indicate that children tend to be less egocentric in this communication as they grow older--that is, they increasingly take into account what the other person needs to know. The two present studies are then described. Study 1, carried out with 120 normal elementary school children, was concerned with establishing the developmental parameters of referential communication performance and with assessing the reliability of the instrument. In Study 2, the socioemotional correlates of referential communication were assessed in 125 moderately emotionally disturbed children. The instrument, a nonsubjective one, was found to be highly reliable. There was a strong age effect, with major shifts in test performance occurring at entry into both the concrete period and the formal operations period. Egocentric communication was found to be greater in emotionally disturbed children than in normal children. (Author/MS)

ED125766# PS008669
Piagetian Theory & the Helping Professions. Proceedings of the Interdisciplinary Seminar (5th, University of Southern California, January 24, 1975).
Poulsen, Marie K., Ed.; And Others
Publ. Date: 76 Note: 407p.
Available from: Mail Order Department, Bookstore, University of Southern California, Los Angeles, California 90007 (Paper, $8.50)
Document Not Available from EDRS.
Descriptors: *Child Development/ *Cognitive Development/ Concept Formation/ *Conference Reports/ Conservation (Concept) / *Developmental Psychology/ Handicapped Children/ Language Development/ Learning Theories/ Memory/ Play/ Reading/ *Symposia
Identifiers: *Piaget (Jean)
This book is a collection of the papers presented at the fifth International Interdisciplinary Conference on Piagetian Theory and the Helping Professions, held at the University of Southern California on January 24, 1975. The conference was sponsored by University Affiliated Program at Childrens Hospital of Los Angeles; 44 papers are included. Among the topics covered are: cognitive development, conservation, language development, humanistic psychology, memory, reading, structure theory, physically and mentally handicapped children, learning centers, formal operations, mathematical ability, proportion, behavior acquisition, play, spatial concepts, and classroom concepts. (SB)

ED125742 PS008594
The Cognitive Curriculum. Program Report.
Far West Lab. for Educational Research and Development, Berkeley, Calif.; High/Scope Educational Research Foundation, Ypsilanti, Mich.
Sponsoring Agency: Office of Education (DHEW), Washington, D.C.
Publ. Date: Nov 71 Note: 42p.; For related documents, see PS 008 592-603
EDRS Price MF-$0.83 HC-$2.06 Plus Postage.
Descriptors: *Activity Learning/ Administration/ *Cognitive Development/ Cognitive Objectives/ Costs/ *Early Childhood Education/ Home Visits/ Instructional Materials/ Learning Activities/ Parent Education/ *Parent Participation/ Preschool Programs/ Professional Training/ *Program Descriptions/ Program Development/ Program Effectiveness/ Program Evaluation
Identifiers: High Scope Educational Research Foundation/ *Piaget (Jean)/ *Weikart (David)
This document is the third in a series of 12 early childhood program descriptions compiled by the Far West Laboratory for Educational Research and Development. The program described here is the Cognitive Curriculum developed by David Weikart at the High/Scope Educational Research Foundation at Ypsilanti, Michigan. The Cognitive Curriculum, which serves children from preschool through third grade, is based on Piaget's developmental theory and is designed to teach cognitive skills. The program advocates that children be actively involved in their learning and that they learn to deal with concrete objects before they learn about abstract symbols. A home visitor program is recommended by the developer. Evaluation data are available which support the program's effectiveness. Included in the program description are brief outlines of: (1) goals and objectives, (2) content and materials, (3) classroom activities, (4) parent involvement, (5) professional and paraprofessional training, (6) administrative requirements and costs, (7) program development and evaluation, and (8) program history and present (1971) status. (JMB)

ED125256 FL007483
The Critical Period for the Acquisition of Language: Some Cognitive Developmental Considerations. Working Papers on Bilingualism, No. 6.
Rosansky, Ellen J.
Ontario Inst. for Studies in Education, Toronto. Bilingual Education Project.
Publ. Date: May 75 Note: 12p.; For related documents, see FL 007 480-484
Available from: Bilingual Education Project, The Ontario Institute for Studies in Education, 252 Bloor St. West, Toronto, Ontario, Canada M5S 1V6 (as long as supply lasts)
EDRS Price MF-$0.83 HC-$1.67 Plus Postage.
Descriptors: Affective Behavior/ Child Language/ *Cognitive Development/ Learning Processes/ *Psycholinguistics/ *Second Language Learning
Identifiers: *Critical Period Hypothesis/ *Piaget (Jean)
This paper reviews the biological origins of the critical period hypothesis and the neurophysiological evidence which was initially supplied in support of a critical period for the acquisition of language. Noting the inconclusive nature of neurophysiological evidence, the author suggests that we look to the interplay of affective and cognitive factors in discussing the acquisition of a second language. The main focus of this paper is the consideration of Piagetian cognitive developmental theory in general, and the development of the symbolic function in particular as it relates to the problem of second language acquisition. The suggestion is offered that the onset of Formal Operations may well mark the beginning of the end of a critical period for the acquisition of language. (Author)

ED124926 CS002773
Reading in Mathematics and Cognitive Development.
Bye, M. P.
Publ. Date: 75 Note: 18p.; Paper presented at the Annual Meeting of the Transmountain Regional Conference of the International Reading Association (2nd, Calgary, Alberta, Nov. 13-15, 1975)
EDRS Price MF-$0.83 HC-$1.67 Plus Postage.
Descriptors: *Cognitive Development/ *Content Reading/ Educational Research/ Mathematical Concepts/ *Mathematical Vocabulary/ *Reading Ability/ *Reading Comprehension/ Reading Difficulty/ Reading Instruction/ Reading Skills/ Secondary Education
Identifiers: Piaget (Jean)
Reading difficulties in mathematics may stem more from the abstract and highly symbolic nature of the subject than from inability to recognize or comprehend the words. A review of Piaget's model of cognitive development suggests that many seemingly simple mathematical terms assume cognitive processes which may not be available to many secondary school students. Preliminary research with tenth-through-twelfth grade students has supported this analysis. In order to overcome the resultant reading problems in mathematics, teachers must provide students with a broader set of experiences, centered on the difficult concepts, in order to generate deeper and more specific meanings for the words causing difficulty. (AA)

ED124416 SE020846
A Representative Series of Piagetian Concrete Operations Tasks. Theoretical Paper No. 57.
Hooper, Frank H.; And Others
Wisconsin Univ., Madison. Research and Development Center for Cognitive Learning.
Sponsoring Agency: National Inst. of Education (DHEW), Washington, D.C.
Report No.: WRDCCL-TP-57
Contract No.: NE-C-00-3-0065
Publ. Date: Sep 75 Note: 100p.; Report from the Project on Children's Learning and Development
EDRS Price MF-$0.83 HC-$4.67 Plus Postage.
Descriptors: *Cognitive Development/ Elementary Education/ Elementary School Mathematics/ Learning/ *Learning Theories/ Logical Thinking/ Longitudinal Studies/ Mathematical Concepts/ *Mathematics Education/ *Research/ *Test Construction/ Tests
Identifiers: *Piaget (Jean)
As an integral step in a comprehensive, four year longitudinal analysis of concept development, a series of logical concept tasks based upon Piagetian theory, and suitable for administration to individuals five years of age or older, are described. The developmental focus was the logical groupements associated with the concrete operations period of middle-childhood. Sixty-four binary choice items were devised; one half of these assessed the operation of logical composition while the remainder assessed the inverse operation and reciprocal operation. In addition, complimentary concrete operations tasks, adapted from the procedures of previous normative investigations, were administered. These included dichotomous sorting, some-all understanding, class inclusion, cardinality, combinatorial reasoning, serial ordering, addition, and correspondence, transitive inference, and conservation of length, weight, and number. A sample of 180 children (equal numbers of kindergarten, and third and sixth grade male and female subjects) received the concept task series. Significant sex differences and order of presentation effects were generally absent. As anticipated, grade-level main effects were significant for the great majority of the tasks. Psychometric analyses were conducted, and it was concluded that the task series was a generally reliable assessment of logical reasoning. (Author/SD)

ED123144* SO009000
Moral Development: A Guide to Piaget and Kohlberg.
Duska, Ronald; Whelan, Mariellen
Publ. Date: 75 Note: 128p.
Available from: Paulist Press, 400 Sette Drive, Paramus, New Jersey 07652 ($3.95)
Document Not Available from EDRS.
Descriptors: Child Development/ Egocentrism/ Interpersonal Relationship/ *Moral Development/ Moral Values/ Personal Growth/ Personality Development/ Social Development/ Theories/ *Values
Identifiers: Kohlberg (Lawrence)/ *Piaget (Jean)
This book discusses the moral development theories of Piaget and Kohlberg and presents practical applications of these theories for teachers and parents. The author's purpose in writing the book is to present an exposition of the work of these men to the general reading public. Chapter titles are Introduction to Developmental Theories, presenting Piaget's theory; Kohlberg's Theory of Moral Development; Moral Development from a Christian Perspective; and Practical Applications of Moral Development Theory. Included in the appendices are Piaget's stories for moral development, Kohlberg's moral judgment situation, and a bibliography of books, papers, and journal articles. (Author/RM)

ED123128 95 SE020879
Science Teaching and the Development of Reasoning. Occasional Paper Series.
Karplus, Robert
ERIC Information Analysis Center for Science, Mathematics, and Environmental Education, Columbus, Ohio.
Sponsoring Agency: National Inst. of Education (DHEW), Washington, D.C.
Publ. Date: Apr 76 Note: 20p.; Paper presented at the Annual Meeting of the National Association for Research in Science Teaching (49th, San Francisco, California, April 23-25, 1976)
EDRS Price MF-$0.83 HC-$1.67 Plus Postage
Descriptors: Educational Research/ *Instruction/ Intellectual Development/ *Learning Theories/ *Logical Thinking/ *Science Education/ Secondary Education/ Secondary School Science/ Thought Processes
Identifiers: *Piaget (Jean)/ Research Reports
Piaget's developmental theory is discussed and several research findings that involve Piaget's theories are reported. The understanding of reasoning patterns is presented as a means for the science teacher to identify the conceptual emphasis and demands of the subject matter and to help students develop more advanced reasoning patterns than they use currently. (MLH)

ED123113 SE020831
Piaget's Work: A Consideration for Science Education.
Stedman, Carlton
Publ. Date: Oct 75 Note: 18p.; Paper presented at the annual conference of the Science Association of Tennessee (1st, Nashville, Tennessee, October 24-25, 1975)
EDRS Price MF-$0.83 HC-$1.67 Plus Postage
Descriptors: *Cognitive Development/ Conservation (Concept)/ Educational Research/ *Elementary Education/ Elementary School Science/ Instruction/ Learning/ *Learning Theories/ *Science Education
Identifiers: *Piaget (Jean)
Piaget's theory of cognitive development is explained, especially in relation to the teaching of elementary school science. Several research projects involving Piaget's theories are reviewed. (MLH)

ED123028 SE018861
A Study of Abstract Preferences in Problem Solving Tasks and Their Relationship to Abstract Ability and Formal Thought.
Dunlop, David L.; Fazio, Frank
Publ. Date: Mar 75 Note: 21p.; Paper presented at the Annual Meeting of the National Association for Research in Science Teaching (48th, Los Angeles, California, March 17-20, 1975); Occasional marginal legibility in appendices
EDRS Price MF-$0.83 HC-$1.67 Plus Postage
Descriptors: *Abstract Reasoning/ Attitudes/ *Cognitive Development/ Concept Formation/ Educational Research/ Higher Education/ *Instruction/ *Problem Solving/ Science Education/ Secondary Education
Identifiers: *Piaget (Jean)/ Research Reports/ Shipley Test of Abstract Reasoning
Investigated, within a Piagetian framework, was the degree of abstract preferences exhibited by five different grade levels of science students as they completed eighteen problem solving tasks. Three hundred twenty-nine randomly selected students from five grade levels, ranging from eighth grade to college seniors, were given the Shipley Test of Abstract Reasoning. Groups of concrete and formal operational students were identified as were groups based on sex and grade level. Solutions for each task were ranked according to degree of abstraction represented. Correlations were completed to determine, for each group, the relationship between abstract ability and abstract preferences. Older groups demonstrated greater abstract reasoning ability. No significant differences were found between grade levels with respect to abstract preference scores. This study supported the assumptions that a student's level of reasoning is often below his capacity and that a student's preference toward a specific solution may, in part, be responsible for his below-capacity functioning. (LS)

ED122951 PS008584
Research Relating to Children. Bulleting 28: March 1971-August 1971.
Wake, Sandra Byford, Comp.; And Others
ERIC Clearinghouse on Early Childhood Education, Urbana, Ill.
Sponsoring Agency: Children's Bureau (DHEW), Washington, D.C.
Contract No.: OCD-CB-2
Publ. Date: Aug 71 Note: 142p.
EDRS Price MF-$0.83 HC-$7.35 Plus Postage
Descriptors: Adolescents/ *Annotated Bibliographies/ *Child Development/ *Children/ Classification/ Conservation (Concept)/ Cultural Factors/ Delinquency/ Educational Research/ Exceptional Child Research/ Family Relationship/ Health Services/ Infant Behavior/ Longitudinal Studies/ *Research Methodology/ *Research Projects/ Social Services/ Socioeconomic Influences
Identifiers: Concrete Operations/ *Developmental Stages/ Piaget (Jean)
This research bulletin includes reports of research (on children) in progress or recently completed from March through August, 1971. Each entry includes information concerning the investigator, purpose, subjects, methods, duration, cooperating groups, and findings (if available). The reports are listed under several topical headings: (1) long-term research, (2) growth and development, (3) special groups of children, (4) the child in the family, (5) socioeconomic and cultural factors, (6) educational factors and services, (7) social services, and (8) health services. In addition to the reports on research, an extensive review paper entitled "Stage Sequence and Correspondence in Piagetian Theory: A Review of the Middle-Childhood Period" is included. The paper discusses the developmental stages of mathematical-logical thinking (i.e., classification, seriation, and conservation) and the longitudinal, cross-sectional, and training studies in this area. (BRT)

ED122554 EC082932
Some Cognitive Aspects of the Language Development of a Two Year Old Child.
Rodriguez-Brown, Flora V.
Publ. Date: Apr 76 Note: 11p.; Paper presented at the Annual International convention, The Council for Exceptional Children (54th, Chicago, Illinois, April 4-9, 1976)
EDRS Price MF-$0.83 HC-$1.67 Plus Postage.
Descriptors: Bilingualism/ Cognitive Development/ *Ethnic Groups/ Exceptional Child Research/ Infancy/ *Language Development/ Language Patterns/ *Puerto Ricans/ Spanish Speaking
Identifiers: Piaget (Jean)
Studied were some cognitive aspects of the language development of a 2-year-old Puerto Rican boy who had been on the U.S. mainland 1 month. A Neo-Piagetian approach (developed by K. Witz and J. Easley) was used to study: language behavior as being embedded in more complex, unified systems; productivity of different structures and language patterns; and the increasing complexity of utterances. (LS)

ED122480 EC082858
Meeting Inservice Teacher Education Needs Through Special Projects: Changing Curriculum for Exceptional Children and Special Education for Regular Teachers.
Smith, Richard E.; And Others
Publ. Date: Apr 76 Note: 13p.; Paper presented at the Annual International Convention, The Council for Exceptional Children (54th, Chicago, Illinois, April 4-9, 1976); For related information, see EC 082 857
EDRS Price MF-$0.83 HC-$1.67 Plus Postage.
Descriptors: *Cognitive Development/ *Educational Methods/ Elementary Secondary Education/ Exceptional Child Education/ *Handicapped Children/ *Inservice Teacher Education/ Regional Programs/ *Regular Class Placement/ State Programs/ Teachers
Identifiers: Piaget (Jean)/ Project CCEC/ Project SERT/ *Texas
Described are a Texas special education region's activities with the 3-year Project CCEC (Changing Curriculum for Exceptional Children) which provides training in the application of the theories of J. Piaget to the education of exceptional children, and with Project SERT (Special Education for Regular Teachers) which trains regular classroom teachers in the competencies needed for mainstreaming handicapped children. Briefly described is the training program format of CCEC including the following modules: "Exceptional Learners - A New Approach," "Developmental Theory - Cognitive Development in Children," "Assessment - Piaget's Clinical Model," "The Classroom - Where the Interaction Is." Described for Project SERT are the following instructional modules: "Comprehensive Special Education," "Formal Appraisal," "Team Planning for Student Program Management," "Informal Assessment," "Organizing Content for Individual Differences," "Materials Selection," "Classroom Management," and "Evaluation of Instruction." (DB)

ED122259 CS002621
Reading Comprehension: Piagetian Assessment and Instruction.
DeMao, Vicki Arnolt
Publ. Date: 76 Note: 36p.; Paper presented at the Annual Meeting of the International Reading Association (21st, Anaheim, California, May 1976)
EDRS Price MF-$0.83 HC-$2.06 Plus Postage.
Descriptors: Elementary School Curriculum/ Physical Environment/ Primary Education/ Reading Comprehension/ *Reading Development/ *Reading Failure/ *Reading Instruction/ *Reading Readiness/ *Reading Readiness Tests
Identifiers: *Piaget (Jean)
Many young children are being placed in a formal reading program before they are cognitively ready. Jean Piaget's developmental theory challenges educators to begin viewing learning and cognitive development from the child's point of view. Interpreters of Piaget's theory have addressed themselves to the teaching of math and science concepts, but little information is available for the use of the reading specialist. This presentation summarizes the logical thinking processes which are integral parts of "learning to read." In addition, simple assessment tasks for determining cognitive level, a curriculum model, and physical arrangements which would facilitate thinking processes are outlined. (Author/KS)

ED122245# CS002607
A Comparison of Piagetian Seriation Operations and Sequencing Skills in Learning Disabled and Normal Students.
Kaleta, Edward Joseph
Publ. Date: 75 Note: 91p.; Ed.D. Dissertation, Northern Illinois University
Available from: University Microfilms, P.O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 76-9861, MFilm $7.50, Xerography $15.00)
Document Not Available from EDRS
Descriptors: *Academic Ability/ Doctoral Theses/ *Educational Diagnosis/ Educational Research/ Exceptional Child Research/ *Learning Disabilities/ Primary Education/ *Student Evaluation
Identifiers: *Piaget (Jean)
The purpose of this study was to determine whether performance on Piagetian seriation tasks discriminated better than sequencing tasks between learning disabled and normal six-, seven-, and eight-year-old students. In addition, both techniques were examined with regard to prediction of academic achievement and differentiation between age levels and groups. One hundred and fifty normal and disabled students participated in testing of seriation operations, measured by requiring students to arrange objects along some dimension such as length or size. Sequencing skills were evaluated by the Sequential category of the Wechsler Intelligence Scale for Children--Revised Edition (WISC). Academic skills were measured by subtests of the Metropolitan Achievement Tests. The findings of this study indicated that seriation tasks





better determined membership in normal or disabled groups for seven-year-olds. Generally, however, the sequential category was a better discriminator of both group membership and academic achievement. In addition, the maturational lag theory was supported as an explanation of learning disability, since disabled children exhibited lower seriation scores than normal students at each age level. (Author/KS)

ED121629 SE020821
Investigations in Mathematics Education, Vol. 8 No. 2.
Osborne, Alan R., Ed.
Ohio State Univ., Columbus. Center for Science and Mathematics Education.
Publ. Date: 75 Note: 71p.
Available from: The Ohio State University, Center for Science and Mathematics Education, 244 Arps Hall, Columbus, Ohio 43210 (Subscription, $6.00, $1.75 single copy)
EDRS Price MF-$0.83 HC-$3.50 Plus Postage
Descriptors: *Abstracts/ Elementary Secondary Education/ *Learning/ Logic/ *Logical Thinking/ Mathematical Concepts/ *Mathematics Education/ Research/ *Research Reviews (Publications)
Identifiers: Piaget (Jean)
Eighteen research reports related to mathematics education are abstracted and analyzed. The reports abstracted were selected from seven journals, two books, and a technical report. The majority of the articles reviewed in this volume concern reasoning abilities and mathematical concepts. Logical inference is the subject of four of the studies while development of mathematical concepts is the subject of four others. Three papers are concerned with extension or validation of Piagetian theories. Other reports concern educational games, problem solving, teaching strategies, mastery learning, and aptitude-treatment interaction. Research related to mathematics education which was reported in RIE and CIJE between January and March 1975 is listed. (SD)

ED121452 PS008510
Developmental Mathematics and the Young Child: A Piaget Rationale.
Yawkey, Thomas Daniels
Publ. Date: 75 Note: 12p.
EDRS Price MF-$0.83 HC-$1.67 Plus Postage
Descriptors: Arithmetic/ Classification/ *Early Childhood Education/ *Intellectual Development/ *Mathematics Curriculum/ *Mathematics Education/ *Mathematics Instruction/ Number Concepts/ Object Manipulation/ Serial Ordering/ Spatial Relationship/ Teaching Techniques/ Thought Processes/ Topology
Identifiers: Developmental Stages/ *Piaget (Jean)
This article discusses the challenge mathematics educators face in deciding what and how mathematics is to be taught, and offers some suggestions for teachers of young children based on Piaget's developmental theory of mathematics. Piaget's cognitive stages are briefly described and the concrete stage, which spans the age range included in early childhood education, is singled out for detailed examination. Within this stage, three areas of knowledge are dealt with: (1) physical, (2) spatial-temporal, and (3) logico-mathematical. Physical knowledge is described as deriving from the observations of physical phenomena in the environment. The primary recommendation for fostering this type of knowledge in the classroom is to provide plenty of opportunity for object manipulation. Spatial-temporal knowledge is described as thinking structures reflecting concepts of space and time and topological activities are suggested to foster its development in the classroom. Logico-mathematical knowledge is described as dealing with the study of relationships between and among objects. Activities involving classification, seriation, number concepts, and arithmetic operations are recommended at the classroom level. Finally, four benefits of a developmental view of mathematics are noted. (JMB)

ED121443 PS008496
Categorization Styles in Older Children and Adolescents.
Davis, Albert J.
Publ. Date: 11 Apr 75 Note: 19p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Denver, Colorado, April 11, 1975); Not available in hard copy due to marginal legibility of original document
EDRS Price MF-$0.83 Plus Postage. HC Not Available from EDRS.
Descriptors: *Egocentrism/ Interaction Process Analysis/ Observation/ Peer Relationship/ *Play/ *Preschool Education/ *Research/ *Social Relations
Identifiers: Piaget (Jean)/ *Role Taking
A measure of role-taking skill was administered individually to 12 male and 8 female preschoolers. In addition the children were observed during free play on 30 consecutive school days, and their behaviors were coded according to Parten's social participation categories. Significant negative relationships were found to exist between the role-taking task and the incidence of parallel and onlooker-unoccupied activity. Role-taking skill was positively related to associative play. The results provide correlation support for Piaget's belief that peer interaction leads to a decline of egocentrism in childhood. (Author/JMB)

ED121035 EC082713
Cognitive Development Among Retardates: Reanalysis of Inhelder's Data.
Jordan, Valerie Barnes
Publ. Date: Apr 76 Note: 9p.; For Inhelder's study see ED 022 305
EDRS Price MF-$0.83 HC-$1.67 Plus Postage
Descriptors: Adolescents/ *Age Differences/ Childhood/ *Cognitive Development/ *Educable Mentally Handicapped/ Exceptional Child Research/ *Intelligence Differences/ Mentally Handicapped
Identifiers: Inhelder (Barbel)/ Piaget (Jean)
A reanalysis of B. Inhelder's (1968) data concerning cognitive development among retardates was performed by selecting from the original 159 subjects a sample of 104 educable mentally retarded Ss (7-19 years old) who were diagnosed as fixated or nonfixated at three of the cognitive stages postulated by Jean Piaget. The results indicated that among fixated retardates, those at lower cognitive stages differed significantly in IQ and MA, while those at higher cognitive stages differed significantly in CA and MA. Among nonfixated subjects, differences between those at each cognitive stage were significant on CA and MA, but not on IQ. In contrast to fixated subjects, nonfixated subjects had significantly higher IQs and MA, and reached higher cognitive stages. It was concluded that a diagnosis of cognitive fixation seemed premature for preadolescent retardates, since the potential for cognitive growth through adolescence appeared strong. (LS)

ED120705# CS002542
A Pre-Reading Program for Kindergartens Based upon Piagetian and Montessorian Models for Instruction: A Descriptive Study of Its Installation and Implementation.
Keys, Delpha Bostock
Publ. Date: 75 Note: 185p.; Ed.D. Dissertation, Columbia University Teachers College
Available from: University Microfilms, P.O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 76-7778, MF$7.50, Xerography $15.00)
Document Not Available from EDRS
Descriptors: Beginning Reading/ Doctoral Theses/ Inservice Teacher Education/ Kindergarten Children/ *Prereading Experience/ Primary Education/ Program Evaluation/ *Reading Programs/ *Reading Readiness/ Reading Research/ *Teaching Methods/ Teaching Models
Identifiers: Montessori (Maria)/ Piaget (Jean)
A kindergarten pre-reading program was designed based upon Piagetian and Montessorian theory. During the pilot study, pre-reading experiences, materials and games were created to encourage individual diagnosis and specific pre-reading skills assessment. The following year the investigator conducted a descriptive study of the program's implementation in two kindergartens of different socioeconomic populations. The program's execution was evaluated by means of behavioral observations of teachers, aides and pupils, formative and summative pre-reading assessments, and the teacher interviews. The results showed similarities and differences in the two teachers' applications. It was concluded that the program was implemented and had effected a higher percentage of individualized kindergarten instruction, but it appeared that the program's capacity to improve pupils' pre-reading skills depended upon several factors. Large-scale testing of the program focusing on teacher, aide and pupil behaviors and the Piagetian and Montessorian Models for Instruction was recommended. (Author/LL)

ED120012 SE020483
Reflections on Science Education. 1976 AETS Yearbook.
Capie, William, Ed.; Fox, Fred W., Ed.
Association for the Education of Teachers in Science.; ERIC Information Analysis Center for Science, Mathematics, and Environmental Education, Columbus, Ohio.
Sponsoring Agency: National Inst. of Education (DHEW), Washington, D.C.
Publ. Date: Dec 75 Note: 183p.
Available from: Information Reference Center (ERIC/IRC), The Ohio State University, 1200 Chambers Road, 3rd Floor, Columbus, Ohio 43212 ($4.25)
EDRS Price MF-$0.83 HC-$10.03 Plus Postage
Descriptors: Elementary School Science/ *Elementary Secondary Education/ Inservice Teacher Education/ *Science Education/ Secondary School Science/ *Self Actualization/ *Teacher Education/ Yearbooks
Identifiers: AETS/ Association for Education of Teachers in Science/ *Piaget (Jean)
This publication, the third in a yearly series, follows the intent of previous editions in which rapid changes in the field of science teacher education were assessed. Accordingly, 14 contributed articles appearing in this volume are grouped under the following headings: (1) The Mission of Science Education, (2) The People of Science Teaching, and (3) Teacher Training. The mission of science section is devoted to a study of science education on the elementary and secondary school levels. Piagetian theory, its application to the teaching of science, and the importance of self-actualization for both students and teachers, comprise the second main division of the publication. Six articles propose ideas concerning teacher preparatory and inservice education in the section devoted to developments in teacher training. (CP)

ED119996 SE020410
A Study of the Nature of Incidental Physical Science Knowledge Possessed by Elementary School Children in Western State of Nigeria.
Taiwo, Adediran A.
Publ. Date: 75 Note: 289p.; Ph.D. Dissertation, New York University
EDRS Price MF-$0.83 HC-$15.39 Plus Postage
Descriptors: Cognitive Development/ Conservation (Concept)/ Correlation/ Doctoral Theses/ *Educational Research/ Elementary Education/ *Elementary School Science/ *Knowledge Level/ *Physical Sciences/ Science Education
Identifiers: *Nigeria/ Piaget (Jean)/ Research Reports
This study was designed to examine the amount of incidental physical science knowledge possessed by fourth-, fifth-, and sixth-grade students in elementary schools in Western State of Nigeria, and to determine what relationship exists between the amount of such knowledge and the pupils' performance on science-related Piagetian tasks. The pupils were tested with the Physical Science Knowledge Test and numerous Piagetian tasks. The responses of the pupils were then subjected to an iten-by-item analysis and to the t-test, analysis of variance, and correlational analysis. Some of the results of this study were: there was a significant difference between the amount of incidental science knowledge possessed by urban school children and that possessed by their non-urban counterparts; the performances on the Piagetian tasks were age-dependent, with the older children performing better than the younger children; and a significant positive correlation was found between the amount of incidental science knowledge possessed by school children of each grade of study and their performance on the Piagetian tasks. (Author/MLH)

ED119842 PS008406
Acquisition of Conservation through Cognitive Dissonance.
Murray, Frank B.; And Others
Publ. Date: Apr 75 Note: 28p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Denver, Colorado, April 10-13, 1975); Light print areas throughout document
EDRS Price MF-$0.83 HC-$2.06 Plus Postage
Descriptors: *Cognitive Development/ Concept Formation/ *Conflict Resolution/ *Conservation (Concept)/ *Early Childhood Education/ *Learning Processes/ Thought Processes
Identifiers: *Cognitive Dissonance/ Piaget (Jean)
In two experiments (N=210) conservers, transitional conservers, and nonconservers were directed to lie or pretend to other children that their judgments and explanations of a series of conservation problems were the opposite of what they really were. Nonconservers and transitional subjects in both studies made large and significant gains in conservation compared to appropriate control groups and according to pre- and post-test. Conservers did not regress. The second experiment, moreover, indicated that conservation gains were stable and that the newly acquired conservation was not extinguished by a second dissonance treatment in which subjects gave nonconservation responses. (Author/JMB)

ED119192 CS202518
Semantics, Syntax, and Sense: Testing an "Adaptive Egocentrism" Hypothesis.
Mood, Darlene Weisblatt
Publ. Date: 75 Note: 19p.; Paper presented at the Annual Meeting of the American Psychological Association (83rd, Chicago, Illinois, August 30-September 3, 1975)
EDRS Price MF-$0.83 HC-$1.67 Plus Postage
Descriptors: *Child Language/ English/ Language Development/ Language Research/ *Language Skills/ Language Usage/ Linguistic Competence/ Linguistic Patterns/ Preschool Education/ *Semantics/ *Sentence Structure/ *Syntax
Identifiers: *Adaptive Egocentrism/ Piaget (Jean)
The purpose of this study was to examine the effects of varying the semantic content of active and passive sentences along a dimension of "personalness" on the comprehension of those sentences by preschool age children. The study focuses on a current linguistic controversy dealing with the relative adequacy of syntax-based and semantics-based theories of linguistic competence, evolving an hypothesis of "adaptive egocentrism" based on Piaget's theories of language development and preoperational thought. The subjects--homogeneous with regard to economic status, heterogeneous in race with non-white subjects distributed across age and sex groups--consisted of 120 children selected from five nursery school day-care centers in Ypsilanti and Ann Arbor, Michigan. Two experiments are reported in this study. Both lend support to the "adaptive egocentrism" hypothesis proposed by Piaget. (RB)

ED118417 95 SE020235
A Study in the Nature and Development of the Natural Number Concept: Initial and Supplementary Analyses. Report from the Project on Children's Learning and Development. Technical Report No. 340.
Gonchar, Arthur J.
Wisconsin Univ., Madison. Research and Development Center for Cognitive Learning.
Sponsoring Agency: National Inst. of Education (DHEW), Washington, D.C.
Report No.: WRDCCL-TR-340
Contract No.: NE-C-00-3-0065
Publ. Date: Jul 75 Note: 137p.
EDRS Price MF-$0.83 HC-$7.35 Plus Postage
Descriptors: *Cognitive Development/ Elementary Education/ *Elementary School Mathematics/ *Learning/ Learning Theories/ Logical Thinking/ Longitudinal Studies/ Mathematical Concepts/ Mathematics Education/ *Number Concepts/ *Research
Identifiers: *Piaget (Jean)/ Research Reports
A two-phase study was designed to investigate the relationship between cognitive skills hypothesized (by Piaget) to underlie number competence, and performance on tasks requiring logical reasoning with number-related concepts. During the first phase, a battery of tasks was administered to 60 kindergarten and 60 third-grade students. These tasks were designed to assess acquisition of concepts identified as formally related to various aspects of number concepts. Tasks within a concept area were weighted according to their relative importance and degree of difficulty. Data were analyzed using contingency tables. In the second phase of the study, data were reanalyzed using a set of behavioral indices developed by Brainerd in earlier work. The results of the study support Piagetian theories of cognitive development. (SD)

ED118211 PS008082
An Experimental Test of the Effects of Internal and External Disequilibrium on Spatial Reasoning Development.
Snyder, Samuel S.; Feldman, David H.
Sponsoring Agency: Spencer Foundation, Chicago, Ill.
Publ. Date: Apr 75 Note: 47p.; Paper presented at the biennial meeting of the Society for Research in Child Development (Denver, Colorado, April 10-13, 1975)
EDRS Price MF-$0.83 HC-$2.06 Plus Postage
Descriptors: *Cognitive Development/ *Cognitive Measurement/ Elementary School Students/ *Models/ *Predictive Validity/ *Task Performance/ Transfer of Training
Identifiers: *Equilibration/ Piaget (Jean)
This study investigated several levels of internal and external disequilibrium and their interaction. Subjects were 63 fifth graders assigned to three groups according to their degree of internal disequilibrium. Internal disequilibrium was measured by the amount "level mixture" (a tendency to respond to various events at several different reasoning levels) demonstrated on a map drawing pretest. Within each internal disequilibrium group subjects were assigned to low, middle or high external disequilibrium conditions, in which they received training on maps drawn at their own modal level, and one level above, or at two levels above. Post testing was conducted using the map drawing task, two spatial reasoning tasks and a delayed posttest. Findings suggest that: (1) external disequilibrium determines primarily the direction of discrepancy between existing and presented cognitive modes and is therefore an important factor influencing the direction of change; (2) internal disequilibrium relates to instability and may therefore primarily affect the amount of change; and (3) under conditions conducive to progressive change, bias distinguishes between subjects likely to advance in modal level and those likely to undergo further elaboration and consolidation of the current level. (Author/GO)

ED118208 PS007512
The Concept of Structure in Cognitive-Developmental Theory.
Brainerd, Charles J.
Publ. Date: Aug 74 Note: 18p.; Paper presented at the Annual Meeting of the American Psychological Association (82nd, New Orleans, Louisiana, August 30-September 3, 1974)
EDRS Price MF-$0.83 HC-$1.67 Plus Postage
Descriptors: *Cognitive Development/ Cognitive Processes/ *Developmental Psychology/ *Human Development/ *Logic/ *Models / Structural Analysis/ Structural Grammar/ Structural Linguistics
Identifiers: Piaget (Jean)/ *Structure (Psychological)
This theoretical paper discusses (1) the meaning of the concept of structure, how the concept of structure is used by psychologists, and how the concept can be defined, and (2) the role of the concept "structure" in cognitive development with specific reference to Piaget's vision of intellectual development. The meanings of the term structure in structural psychology, in gestalt psychology and in the structuralist movement are described, and it is emphasized that the concept of structure is a purely logical notion. Adjectives (like grammatical) serve only to modify rather than define the generic concept. Treating structure in this way implies that structural isomorphism has useful implications for work in new areas. Such analytical uses of structure are contrasted with Piaget's conception of cognitive structure which, it is alleged, has been used as grounds for his stages. The possible fallacy of assuming a relation between cognitive structures and cognitive stages in Piagetian theory is explained. Predictions concerning timing and sequence of stages based on this assumption are contrasted with Piaget's findings. (GO)

ERIC

ED117938 FL005556
Spatial and Temporal Relations in the Linguistic and Cognitive Development of Young Children.
Sinha, Chris; Walkerdine, V.
Bristol Univ. (England). Inst. of Education.
Publ. Date: Feb 74 Note: 64p.; Not available in hard copy due to marginal legibility of original document; Some pages may not be legible on microfiche
Available from: Dr. Chris Singa, School of Education Research Unit, University of Bristol, Lyndale House, 19 Berkeley Square, Bristol BS8 1HF, England
EDRS Price MF-$0.83 Plus Postage. HC Not Available from EDRS.
Descriptors: Child Development/ Child Language/ Cognitive Development/ Cognitive Processes/ Function Words/ Kinesthetic Perception/ *Language Development/ Language Research/ Linguistic Theory/ Perceptual Development/ Preschool Children/ *Psycholinguistics/ *Semantics/ Sociocultural Patterns/ *Space Orientation/ *Time Perspective
Identifiers: *Piaget (Jean)
This paper reports the findings of an investigation into the development of the use and understanding of locative and temporal prepositions in 94 children aged from 18 months to 8 years. The research was carried out as part of the Project "Language Development in Pre-School Children," directed by Gordon Wells, at the University of Bristol, School of Education. The research represents an attempt to integrate the theoretical and methodological orientations of linguistic semantics and Piagetian theory in the study of the acquisition of a limited domain of word-meanings. Detailed analyses are presented of particular strategies utilized by children at various ages and stages of development in the comprehension and production of spatial and temporal relational terms. It is suggested that such strategies result from specific interactions between the developing systems of language, cognition and perception, the overall forms of which are determined by the socio-cultural context of the use of the relational terms. In conclusion, partial critiques are presented of one-sided applications of semantic features theories and Piagetian theory in previous explanations of the acquisition of spatial and temporal relational terms. (Author)

ED117894 95 EC081212
An Investigation of Matrix Task Classificatory and Seriation Abilities. Technical Report No. 348.
Hooper, Frank H.; Sipple, Thomas S.
Wisconsin Univ., Madison. Research and Development Center for Cognitive Learning.
Sponsoring Agency: Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.; National Inst. of Education (DHEW), Washington, D.C.; Wisconsin Univ., Madison.
Report No.: WRDCCL-TR-348
Contract No.: NE-C-00-3-0065
Publ. Date: Sep 75 Note: 48p.; Report from the Project on Children's Learning and Development
EDRS Price MF-$0.83 HC-$2.06 Plus Postage
Descriptors: Age Differences/ *Classification/ *Cognitive Development/ Concept Formation/ *Early Childhood Education/ *General Education/ Matrices/ Research Projects/ *Serial Ordering
Identifiers: Piaget (Jean)
Matrix tasks to assess multiple classifications and multiple seriation skills were administered to 160 children (40 Ss each from preschool, kindergarten, first and second grade levels). Each child received six matrix subtasks (reproduction and transportation of cross classification I, double seriation, and cross classification II) in one of six orders of presentation. Preliminary analyses indicated a general absence of significant presentation order effects and an absence of sex differences. Grade level comparisons were significant for all subtasks except cross classification I transposition. Significantly superior performances on the reproduction when compared to the counterpart transposition subtask were shown for the cross classification I (first grade, second grade, and combined grades), double seriation (kindergarten, first grade, second grade, and combined grades), and cross classification II (first grade and combined grades) cases. The between matrix difficulties were that in both reproduction and transposition subtasks, cross classification II was more difficult than double seriation and cross classification I. Results suggested that development in classificatory abilities may lag behind relational abilities contrary to the structural prediction of orthodox Piagetian theory. (Author/SB)

C0 C1

ED117874 EC081109

Piaget for Regular and Special Physical Educators and Recreators.

Winnick, Joseph P., Ed.; French, Ronald W., Ed.

State Univ. of New York, Brockport. Coll. at Brockport.

Publ. Date: 75 Note: 86p.; Papers selected from the National Symposium on Piaget for Regular and Special Physical Educators and Recreators (Brockport, New York, October 7-9, 1974)

Available from: The Bookstore, State University College, Brockport, New York 14420

EDRS Price MF-$0.83 HC-$4.67 Plus Postage

Descriptors: *Adapted Physical Education/ Child Development/ Conference Reports/ Exceptional Child Education/ General Education/ *Handicapped Children/ *Motor Development/ Physical Education/ Play/ *Recreation/ Teaching Methods/ Theories

Identifiers: *Piaget (Jean)

Included are the following papers: "Piaget: Overview and Perspective" (H. Humm); "Piaget's Theory of Memory Development: Implications for Motor Skill Learning" (L. Zaichkowsky); "Piaget Theory and Its Implication to Teaching Styles, Techniques and Strategies" (R. Mueller); "Piaget and Play" (S. Suttie); "Piaget-Based Early Developmental Experiences in Physical Recreation and Physical Education" (J. Winnick); "Application of Piagetian Concepts to Physical Recreation and Physical Education" (R. French et al); "Piaget, Self-Concept and Physical Education" (J. Hayes); "On the Applicability of Piagetian Theory to Motor and Affective Dysfunction" (G. Patrick); and "Piaget and Special Physical Education" (R. Bergel). (CL)

ED116966 SE020234

Elementary School Mathematics: A Guide to Current Research. Fourth Edition.

Callahan, Leroy G.; Glennon, Vincent J.

Association for Supervision and Curriculum Development, Washington, D.C.

Publ. Date: 75 Note: 201p.; For the Third Edition, see ED 026 123

Available from: Association for Supervision and Curriculum Development, Suite 1100, 1701 K Street, N.W., Washington, D.C. 20006 (Stock Number 611-75056, $5.00; discounts on quantity orders)

EDRS Price MF-$0.76 Plus Postage. HC Not Available from EDRS.

Descriptors: Algorithms/ Child Development/ Curriculum/ *Curriculum Research/ Educational Environment/ Elementary Education/ *Elementary School Mathematics/ Grouping (Instructional Purposes)/ *Instruction/ Mathematics Education/ *Research Reviews (Publications)/ Teacher Education/ *Teaching Methods

Identifiers: Piaget (Jean)

The four sections of this monograph review current research related to mathematics education from the points of view of studies concerning (1) the curriculum, (2) the child, (3) the learning environment, and (4) teaching methods. Topics addressed in part one include the sources of mathematics curricula, the curricular validity of "new math" curricula, the curricular implications and applicability of Piagetian theory, and several specific projects related to mathematics curriculum and assessment. Part two addresses cultural and sex differences in mathematics achievement, effects of disabilities (learning disabilities, deafness, blindness, mental retardation) and personality factors on mathematics learning, and attitudes toward mathematics. Individualization of instruction, grouping, class size, and use of mathematics laboratories are discussed in part three, together with various aspects of pre-service and in-service teacher education. Part four is devoted to discussion of a variety of instructional approaches and practices (discovery, drill, use of physical models, homework, hand-held calculators, computer assisted instruction), and to the selection of algorithms. (SD)

ED116912# SE019724

Specific Concepts of Space and Time in Children from Grades One Through Six.

Carlson, Gaylen R.

Publ. Date: 19 Mar 75 Note: 18p.; Paper presented at the Annual Meeting of the National Association for Research in Science Teaching (48th, Los Angeles, California, March 1975); Marginal Legibility

Available from: ERIC/SMEAC, The Ohio State University, 1200 Chambers Road, 3rd Floor, Columbus, Ohio 43212 (on loan)

Document Not Available from EDRS

Descriptors: Cognitive Development/ *Concept Formation/ Elementary Education/ *Elementary School Science/ *Instruction/ *Learning Processes/ *Learning Theories/ Mathematical Concepts/ Mathematics/ Science Education

Identifiers: Piaget (Jean)

The paper presented relates to a study done examining the ability of children from grades one through six to locate a point in one, two, and three dimensions and to order a temporal series of events in one, two, and three dimensions. The performance of the subjects was also used to examine a small part of Piaget's theory of cognitive development. The conclusions drawn from the analysis of data also resulted in some educational implications concerning these aspects of space and time. Procedural information presented includes sample selection and research design, a description of the operational tasks performed, as well as how they were administered, and the scoring and data type utilized with the instrumentation used. It was noted that there was a progressive and uniform improvement in the performance of the subjects from grade levels one through six for the time independent tasks and the time dependent tasks. Some of the results seemed to disagree with Piaget's theory. (Author/EB)

C2

C3

ED116808 PS008291
"Conservation" Responses in Very Young Children.
Gotts, Edward Earl; And Others
Publ. Date: 75 Note: 28p.
EDRS Price MF-$0.76 HC-$1.95 Plus Postage
Descriptors: *Cognitive Development/ Comprehension Development/ Concept Formation/ *Conservation (Concept)/ *Developmental Tasks/ *Language Development/ Number Concepts/ Perceptual Development/ *Preschool Education/ Psycholinguistics/ Research Design/ Verbal Development
Identifiers: *Piaget (Jean)
The role of language in conservation tasks and the development of the concept of conservation of quantity in young children are investigated in this study. A total of 50 children, aged 3.0 to 4.7 years, were divided into three groups according to age with a large number clustered around age 4.0 years. Children were randomly assigned to one of two order effects. In the first effect, called the MORE condition, the child was presented with unequal rows of M&Ms and asked "Which row is (has) more, or are they both the same?" Following the child's response, the M&M's were equalized, then rearranged into unequal rows. The child was told "Take the row you want to eat, and eat all the M&Ms in that row." In the second effect, called the EAT condition, the same two instructions were given in the reverse order. Results indicate that children's comprehension of the "more" question increases with age; however, the children demonstrated better comprehension of numerosity when told to "eat" a row than when asked which row had "more." In addition, the children clustered at age 4 appeared to be transitional in verbal concept development regarding semantic contexts (the prior instruction "eat" cued them regarding the meaning of "more"). It is suggested that the results reflect on the young child's verbal concept development regarding number. (ED)

ED116803 PS008282
Transformations and Codes in Early Pretending.
Fein, Greta G.
Yale Univ., New Haven, Conn.
Sponsoring Agency: Office of Child Development (DHEW), Washington, D.C.
Publ. Date: Sep 74 Note: 37p.; A briefer version of this paper was presented at the Annual Meeting of the American Psychological Association (82nd, New Orleans, Louisiana, Aug. 30-Sept. 3, 1974)
EDRS Price MF-$0.76 HC-$1.95 Plus Postage
Descriptors: *Behavior Development/ Behavior Patterns/ *Cognitive Development/ *Early Childhood Education/ *Imagination/ Imitation/ Infancy/ *Infant Behavior/ Literature Reviews/ Stimulus Behavior/ Toys
Identifiers: Piaget (Jean)/ *Pretend Behavior
Evidence which suggests that pretend activities become increasingly independent of the presence of realistic objects is examined in this paper. Results of research on pretend behavior in children 1 1/2 - 2 years of age are described and analyzed. Striking changes in pretend behavior are shown to occur during the second year of life. Pretend play is treated as a paradigm for understanding how children represent objects and relations. It is argued that the child can pretend that one thing is another when he can represent objects (or object activities) as prototypes and when he can use the core properties of prototypes to transform representations of immediate physical stimulation. The analysis suggests a three-phase sequence in the development of pretending based on a progression from the analogue mapping of representations to the selection and, eventually, the production of the core properties of object representations. (Author/ED)

ED116776 PS008195
An Analysis of Erikson's and Piaget's Theories of Human Growth. Final Report.
Light, Donald W., Jr.
Sponsoring Agency: National Center for Educational Research and Development (DHEW/OE), Washington, D.C.; National Inst. of Education (DHEW), Washington, D.C.
Bureau No.: 1-0529
Grant No.: OEG-2-71-0529
Publ. Date: Nov 73 Note: 119p.; Not available in hard copy due to marginal legibility of original document
EDRS Price MF-$0.76 Plus Postage. HC Not Available from EDRS.
Descriptors: *Affective Behavior/ Behavior Theories/ Child Development/ Comparative Analysis/ *Elementary Secondary Education/ *Emotional Development/ Human Development/ *Identification (Psychological)/ Models/ Personal Growth/ Personality Development/ Personality Theories/ Self Actualization/ Sexuality/ *Social Development
Identifiers: Erickson (Erik H.) Freud (Sigmund)/ Piaget (Jean)/ *Stage Theories
Similarities and differences between Erik H. Erikson's and Jean Piaget's theories concerning social development and the process of identification are explored in this report. The first part of the report is a synthesis of Erikson's concept of the developmental processes of personal growth and societal development. The second part integrates Piaget's theory of affective development and Erikson's theory of childhood psychosocial development. The third part compares major theories of identity formation, including: (1) the psychoanalytic conceptions of ego, self, and identity, (2) the theories of identity formation advanced by B. F. Skinner, Carl Rogers, and George H. Mead, and (3) the different conceptions of the relationship between self and society in these theories of identity. A reformulation of the concept of identity is suggested. (BRT)

ED116438 EC080962
Piaget's Preoperational Stage of Development and Applications for Special Preschoolers.
Lowenthal, Barbara
Publ. Date: 75 Note: 9p.
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: *Class Activities/ *Cognitive Development/ Concept Formation/ Exceptional Child Education/ *Individual Activities/ *Language Handicapped/ Learning Theories/ Maturation/ Preschool Education/ Special Education
Identifiers: *Developmental Disabilities/ Piaget (Jean)
Many preschool children with developmental delays in cognition and language are in the preoperational stage as defined by Jean Piaget's theory of cognitive development. The preoperational stage is divided into the preconceptual and the intuitive phases. During the preconceptual phase, the preschooler is unable to form true concepts and often reasons in the form of unrelated judgement without logical organization. In the intuitive phase, the child's reasoning is tied to his perceptions and therefore his thinking is often distorted. Implications for parents and teachers are that in a special preschool class, activities should be of a wide variety and should include exploring with all the senses (such as imitating the actions of people, animals and objects); that at home, parents can emphasize real experiences (including planting seeds and cooking); and parents and teachers should use language related to what the child is experiencing as well as to his general level of language functioning. (SB)

ED116377 EC080748
The Reasoning, Moral Judgment, and Moral Conduct of the Congenitally Blind. Final Report.
Stephens, Beth; Simpkins, Katherine
Temple Univ., Philadelphia, Pa.
Sponsoring Agency: Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
Bureau No.: H233197
Grant No.: OEG-0-72-5464
Publ. Date: Nov 74 Note: 124p.
EDRS Price MF-$0.76 HC-$5.70 Plus Postage
Descriptors: Adolescents/ *Blind/ Childhood/ *Cognitive Development/ Cognitive Processes/ *Conduct/ Congenitally Handicapped/ *Ethics/ Exceptional Child Research/ Maturation/ *Moral Development/ Visually Handicapped
Identifiers: Piaget (Jean)
The performance of 75 congenitally blind and 75 sighted subjects (6- to 18-years-old) was compared on 32 Piagetian measures of reasoning, moral judgment, and moral conduct. Among major findings were that blind Ss did not achieve the reasoning processes characteristic of concrete operational thought with the facility or completion that would be expected for persons of their age and IQ (an average delay of 8 years was noted) and that few significant differences occurred between the blind and sighted groups on measures of moral judgment and moral conduct. Deficiencies found in the reasoning of blind Ss indicated a need to provide these persons with opportunities to interact and reason in ongoing situations. (Author/LS)

ED116362 EC080585
Cognitive Development in Young Deaf Children. Research Report No. 92.
Best, Barbara J.; Roberts, Gail C.
Minnesota Univ., Minneapolis. Research, Development, and Demonstration Center in Education of Handicapped Children.
Sponsoring Agency: Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
Report No.: RR-92 Bureau No.: 332189
Grant No.: OEG-09-332189-4533(032)
Publ. Date: Aug 75 Note: 56p.
EDRS Price MF-$0.76 HC-$3.32 Plus Postage
Descriptors: *Aurally Handicapped/ *Cognitive Development/ *Deaf Children/ Early Childhood/ *Environmental Influences/ Exceptional Child Research/ Intervention/ Maturation/ Mothers/ Parent Child Relationship/ *Social Influences/ Stimulation
Identifiers: Piaget (Jean)
Sixteen preschool-age hearing-impaired children were studied to explore the general nature of their cognitive development and to identify relationships between environmental processes and cognitive development. Data were obtained from administration of the Infant Psychological Development Scale and the Inventory of Home Stimulation (when Ss were 23- to 38-months old); and from administration of the Home Inventory, the Utah Test of Language Development, a structured mother-child interaction task, and a classification task (when Ss were 36- to 54-months-old). Findings revealed that the early cognitive development of deaf children through what J. Piaget terms the sensori-motor stage proceeds quite normally, but that cognitive development which is more clearly dependent on verbal interaction with the environment, or what Piaget terms social transmission, does show a discrepancy when deaf children are compared to hearing children on the classification task. Results suggested that early intervention programs with deaf children need to focus on improving communication abilities and developing curriculum materials which better teach those concepts usually transmitted through social interaction with the environment. (LS)

ED115451# SE017680
An Information Theoretic Analysis of Classification Sorting and Cognition by Ninth Grade Children within a Piagetian Setting.
Dunlop, David Livingston
Publ. Date: 73 Note: 256p.; Ph.D. Dissertation, University of Pittsburgh
Available from: University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order No. 74-2081, MF-$7.50, Xerography-$15.00)
Document Not Available from EDRS
Descriptors: *Classification/ Doctoral Theses/ Educational Research/ Instruction/ *Learning/ *Recall (Psychological)/ Science Education/ Secondary Education/ *Secondary School Science/ *Thought Processes
Identifiers: Piaget (Jean)/ Research Reports
The purpose of this study was to use an information theoretic memory model to quantitatively investigate classification sorting and recall behaviors of various groups of students. The model provided theorems for the determination of information theoretic measures from which inferences concerning mental processing were made. The basic procedure involved a comparison of several sets of contrasting groups of students formed by the use of recognized psychological phenomena. Students were separated into groups of concrete and formal operational as defined by Piaget and further sub-divided on the basis of sex. Data revealed that concrete operational children benefited most from conceptualization while formal operational students benefited most from a self-designed sorting task. The importance of this study may not lie as much in the originality of the findings as in the quantitative methods used. (Author/CP)

ED115448# SE017669
The Effects of Instruction in the Concept of Speed and Proportions on Children in the Third Grade.
Boulanger, Ferdinand David
Publ. Date: 73 Note: 155p.; Ph.D. Dissertation, University of Washington
Available from: University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order No. 74-2243, MF-$7.50, Xerography-$15.00)
Document Not Available from EDRS
Descriptors: *Concept Teaching/ Doctoral Theses/ Educational Research/ Elementary Education/ *Elementary School Science/ Grade 3/ *Instruction/ *Ratios (Mathematics)/ Science Education/ *Scientific Concepts
Identifiers: Piaget (Jean)/ Research Reports
The purpose of this study was to investigate the effects of systematic instruction in the concept of speed and simple proportions on the performance of concrete operational children in the third grade. A screening test was administered to select a population of children who could perform simple division and who were concrete operational in the conception of time, space, and speed. From the group attained, 51 were randomly selected and randomly assigned to 2 instructional treatment groups and a control group. The training and comparison treatment consisted of problems, questions, and demonstrations interwoven with training in the concept of speed and simple proportions. The comparison only treatment dealt only with problems, questions, and demonstrations. Both control and experimental groups were individually measured on retention, transfer, and transfer to two Piagetian tasks immediately after training and three weeks later. Among the findings were: the training and comparison treatment group scored significantly higher than the control group on immediate retention, but this difference fell below the significance level on the delayed retention measure. (Author/CP)

ED115374 PS008186
A Critical Analysis of Matrix Task Classificatory and Seriation Abilities.
Hooper, Frank H.; Sipple, Thomas S.
Publ. Date: 12 Apr 75 Note: 21p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Denver, Colorado, April 12, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: Age Differences/ *Classification/ *Cognitive Development/ Cues/ *Developmental Tasks/ *Early Childhood Education/ Logical Thinking/ Matrices/ Memory/ Research Methodology/ Research Problems/ *Serial Ordering/ Thought Processes
Identifiers: *Piaget (Jean)
Two experiments which investigated the young child's ability to deal with multiplicative classes and relations (considered behavioral indices of concrete operations thought) in double series and cross class matrices are described and discussed. In the initial study, 160 children from preschool through grade 2 received six matrix subtasks (reproduction and transposition subtasks of cross classification, classification seriation, and double seriation) in one of six orders of presentation (the reproduction subtask always preceded the transposition case for a given matrix). The second experiment followed much the same design as the first, except that the class/series matrix was not used and stimuli for one cross class task were rearranged so that neither dimension was seriated across rows or columns of the matrix. Results, conclusions, and methodological problems of each experiment are discussed in detail. It was concluded that the pattern of lesser general difficulty for multiple relations contrasted with multiple classification concepts was substantiated in these experiments (and other experiments (and other experiments also discussed) and that the original structural synchrony conclusions of Inhelder and Piaget need further examination. (ED)

ED114289 SE019857
Lessons Designed to Teach Fifth Grade Students the Concept Tree at the Formal Level of Attainment. Practical Paper No. 15.
Feldman, Katherine V.; And Others
Wisconsin Univ., Madison. Research and Development Center for Cognitive Learning.
Sponsoring Agency: National Inst. of Education (DHEW), Washington, D.C.
Report No.: WRDCCL-PP-15
Contract No.: NE-C-00-3-0065
Publ. Date: Jun 75 Note: 73p.; Report from the Project on Conditions of School Learning and Instructional Strategies
EDRS Price MF-$0.76 HC-$3.32 Plus Postage
Descriptors: Autoinstructional Aids/ *Cognitive Development/ *Concept Teaching/ Earth Science/ Elementary Education/ *Elementary School Science/ *Instructional Materials/ Science Education/ *Trees
Identifiers: Piaget (Jean)
The autoinstructional activities included in this booklet were designed to be used to teach fifth-grade students the science concept "tree" at the formal level of attainment. The instructional strategies used in the lessons had been shown in previous studies to facilitate concept learning when used singly or in combination with one another. The strategies used are: (1) use of a definition, (2) empirical selection of concept examples through an instance probability analysis, (3) use of rational sets of examples and nonexamples, (4) pairing of examples with nonexamples, (5) emphasis of relevant attributes, (6) teaching of strategy, (7) immediate feedback, and (8) active involvement by the student. Instruction was divided into two parts, each part being a lesson. The first lesson presents the defining attributes and teaches children labels for defining attributes. The second lesson presents the definition of "trees," presents a rational set of examples and nonexamples, and teaches a strategy for evaluating whether or not an instance is an example of the concept. Active involvement and immediate feedback are provided for the student in both lessons. (Author/CP)

ED114195 PS008154
Prior Knowledge of Rules in Concept Learning.
Brainerd, Charles J.
Publ. Date: Apr 75 Note: 15p.; Paper presented at the Annual Convention of the American Educational Research Association (Washington, D.C., March 30-April 3, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: *Cognitive Development/ Compensation (Concept)/ *Concept Formation/ *Conservation (Concept)/ *Early Childhood Education/ *Learning Processes/ Retention/ Theoretical Criticism/ Training Techniques/ Transfer of Training
Identifiers: *Piaget
This paper briefly reviews the literature concerning the Paiget-Burner debate over the roles of identify and reversibility rules in conservation acquisition, and describes an experiment designed to determine whether one group of rules is more closely related to conservation than the other. A group of children, aged 4-6 years, received tests of inversion, reciprocity, qualitative and quantitative identity, and conservation of liquid, weight, and length. A total of 75 of these children, who showed no evidence of conservation but exhibited considerable variability on the four rule tests, were selected for the experiment. Of these, 50 experimental subjects were trained to acquire liquid quantity conservation via an elementary feedback procedure. The 25 control subjects received the same liquid quantity problems during training trials, but feedback was omitted. In a posttest one week later, subjects were readministered the liquid, weight and length conservation tasks. Performance of the trained subjects in all areas was far superior to their controls. It was determined that prior knowledge of Piaget's inversion rule was an excellent predictor of conservation learning, and that neither Bruner's nor Piaget's analyses of conservation appears to be entirely correct. (ED)

ED114182 PS008139
Egocentrism and Peer Interaction: Testing Piaget's Hypothesis.
French, Doran; And Others
Publ. Date: 75 Note: 12p.; Filmed from best available copy
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: *Cognitive Development/ *Communication Skills/ *Egocentrism/ *Peer Relationship/ *Primary Education/ Role Playing/ Sociometric Techniques
Identifiers: Piaget/ Popularity
This experiment tested Piaget's hypothesis that peer interaction plays a crucial role in the reduction of childhood egocentrism. A sample of 46 second graders from a middle-class suburban public school were given a sociometric measure of popularity. Four tasks which assessed spatial, communicative, and role-taking egocentrism were then performed by each child. Intercorrelations among the four egocentrism tasks were computed by the Kendall Rank correlation method. Ablity on the spatial egocentrism task correlated with ability in role-taking. The peer popularity measure was not found to be related to any of the measures of egocentrism. It is suggested that the use of popularity as a measure of peer interaction may be a weak test of Piaget's hypothesis. (BRT)

ED113874 EC080108
Comparison of the Theoretical Constructs of Piaget and Kephart.
Wadsworth, Barry
Publ. Date: 75 Note: 6p.; Paper presented at the International Federation of Learning Disabilities (Second International Scientific Conference, Brussels, Belgium, January 3-7, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: *Child Development/ Cognitive Development/ Early Childhood Education/ Elementary Education/ Exceptional Child Education/ *Learning Disabilities/ Learning Theories/ *Theories
Identifiers: *Kephart (Newell)/ *Piaget (Jean)
Outlined are similarities between the developmental system of J. Piaget and the system of N. Kephart. Considered are views of the two men in areas such as organization and adaptation, early development, and mental structures. The author concludes that for learning disabled children, Kephart's conceptions lead more clearly to educational programs and specific instruction than Piaget's. (LS)

ED113140 SE018780
A Summary of Research in Science Education-1973.
Rowe, Mary Budd, Ed.; DeTure, Linda, Ed.
ERIC Information Analysis Center for Science, Mathematics, and Environmental Education, Columbus, Ohio.
Sponsoring Agency: National Inst. of Education (DHEW), Washington, D.C.
Publ. Date: 75 Note: 93p.
Available from: John Wiley and Sons, Inc., One Wiley Drive, Somerset, New Jersey 08873 ($4.95)
EDRS Price MF-$0.76 Plus Postage. HC Not Available from EDRS.
Descriptors: Curriculum/ *Educational Research/ Handicapped/ Instruction/ Learning Theories/ Physics/ Preservice Education/ *Research Reviews(Publications)/ *Science Education/ Surveys/ *Teacher Education/ Testing
Identifiers: *Piaget (Jean)
The editors of this review have focused on four purposes: (1) to portray the state of knowledge in science education, (2) to describe any existing trends, (3) to identify areas which need to be researched, and (4) to provide tentative answers to pertinent problems, if any seem to emerge from the research. Research studies reviewed have been divided into the main categories of learning; education, characteristics and behaviors of teachers; values and philosophy; and surveys. Also, an index and bibliography are provided in order that the reader may make easy reference to the 307 research studies listed. (CP)

72

ED113046 PS008108
Preoperational Graphic Representation: From Intellectual Realism to Visual Realism in Draw a House-Tree Task.
Kalyan-Masih, Violet
Publ. Date: Jun 75 Note: 8p.; Paper presented at the Annual Symposium of the Jean Piaget Society (5th, Philadelphia, Pennsylvania, June 13-14, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: *Cognitive Development/ *Cognitive Measurement/ Cognitive Tests/ *Early Childhood Education/ *Freehand Drawing / Predictive Validity/ *Realism/ Test Reliability/ Test Validity
Identifiers: Decentering/ Developmental Stages/ *Piaget (Jean)
In a pilot study of children's drawings of "a house with a tree behind it," Piagetian sequence (scribbling, fortuitous realism, failed realism, intellectual realism, and visual realism) was tentatively supported. Children's strategies in decentering from intellectual to visual realism were noted. The study reported in this paper was undertaken to investigate: (1) the developmental sequence in House-Tree task; (2) its relationship with Stanford Binet, Peabody, and four Piagetian measures; and (3) synchronous development among these measures. Data from 49 subjects aged, 3 1/2-6 1/2 years, were used for analysis. Developmental sequence for House-Tree task and relationship among these measures was confirmed. Some evidence for synchronous development at a younger age level was found. The House-Tree task, because of its simplicity, ease, and economy in administering and scoring, has potential for assessing the cognitive development of young children. (Author/ED)

73

ED113045# PS008107
The Preschool in Action: Exploring Early Childhood Programs.
Parker, Ronald K., Ed.
Publ. Date: 72 Note: 508p.
Available from: Allyn and Bacon, Inc., 470 Atlantic Ave., Boston, Massachusetts 02210 ($12.95)
Document Not Available from EDRS
Descriptors: Behavioral Objectives/ Child Development/ Cognitive Objectives/ *Curriculum Development/ *Curriculum Research/ Discovery Learning/ *Early Childhood Education/ *Experimental Curriculum/ Intellectual Development/ Intervention/ Poverty Research/ *Preschool Programs/ Programed Instruction/ Teaching Techniques
Identifiers: Montessori (Maria)/ Piaget (Jean)
This book is a collection of papers on curriculum development in early childhood education. In Chapter 1, Bruner examines what is known about the effects of poverty on child development in Western culture, considers whether modern developmental theories aid in understanding the impact of culture (and specifically) poverty on children's growth, and discusses the implications of his findings for public policy. In Chapter 2, Blank presents 12 techniques that teachers can use when a child makes a wrong response. In Chapters 8 and 10-13, several curriculum specialists offer an updating and extension of their earlier conceptualization. Included are Nimnicht's responsive educational system, Robison's CHILD curriculum, Engleman and Bereiter's academic preschool, Karnes' ameliorative curriculum, and Miller and Camp's program based on the Gray/Klaus Early Training Project. Six of the remaining chapters deal with developing curricula for preschool children, ages 3-6: Nedler describes her developmental process approach to curriculum design, Kamii and Hooper present two different applications of Piagetian theory, Weikart reports on the Unit Based Curriculum; Banta comments on Montessori curriculum, and Whitney and Parker provide an account of their Discovery Program. In two other chapters, Aaronson and Palmer discuss curricula designed for children between 15 and 36 months of age. (JMB)

ED113021 PS008043
Counting Strategies and Semantic Analysis as Applied to Class Inclusion. Report No. 61.
Wilkinson, Alexander
Michigan Univ., Ann Arbor. Dept. of Psychology.
Report No.: R-61
Publ. Date: Mar 75 Note: 49p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Denver, Colorado, April 10-13, 1975)
EDRS Price MF-$0.76 HC-$1.95 Plus Postage
Descriptors: Comparative Analysis/ *Concept Formation/ Congruence/ *Inequalities/ *Mathematical Logic/ Preschool Children/ *Preschool Education/ Rational Numbers/ Semantics/ *Set Theory
Identifiers: *Piaget (Jean)

This investigation examined strategic and semantic aspects of the answers given by preschool children to class inclusion problems. The Piagetian logical formalism for class inclusion was contrasted with a new, problem processing formalism in three experiments. In experiment 1, it was found that 48 nursery school subjects nearly always performed better on percept inclusion than on concept inclusion. This result supports problem processing formalism and contradicts logical formalism. Experiment 2 used 11 of the same subjects to investigate three questions: whether the children's counting strategies would produce the same response patterns as in experiment 1, whether the answer "the same number" (essential to any correct coextensive comparison) was available in their response repertoire, and whether expected responses to coextensive problems in concept and in percept sets would be obtained. Results offered consistent experimental support for SCAN and MATCH components of the problem processing model. Experiment 3 utilized 48 new subjects and a design which crossed four categories with four problem types, to clarify the reasons for the difference observed between the difficulty of percept and concept problems. Interpretations of the results are discussed in terms of the children's semantic strategies and counting strategies. The general conclusion offered is that problem-solving strategies, not logical deficits, are the source of young children's inclusion of errors. (GO)

ED113018 PS008035
The Development of Propositional Reasoning: Conceptual Issues, and Suggestion of a Perspective for Empirical Research.
Falmagne, Rachel Joffe
Publ. Date: Apr 75 Note: 13p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Denver, Colorado, April 10-13, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: *Abstract Reasoning/ Adolescence/ *Childhood/ *Cognitive Processes/ Developmental Tasks/ Linguistic Competence/ *Logical Thinking/ *State of the Art Reviews
Identifiers: Formal Operations/ *Piaget (Jean)
This theoretical paper reevaluates the Piagetian tradition in the study of propositional reasoning. Piaget's assertion that children's logic, prior to the stage of formal operations, is structurally adequate for dealing with objects and their properties, but is inadequate for fully competent propositional reasoning, is challenged on three grounds: (1) the data base from which Piaget's theory about formal reasoning has been developed comes from a scientific task domain with its specific task requirement and associated psychological factors; (2) the theory cannot, a priori, be extended to other propositional task domains, and empirical support for generalizing it has not been provided; (3) findings from adult studies show that adults tend to rely on empiric (rather than propositional) reason whenever it is possible to do so. Therefore, there are interesting similarities between child and adult reasoning which the Piagetian outlook has de-emphasized. A linguistically oriented view on the development of propositional reasoning is proposed, based on the idea that acquiring propositional competence is an achievement of the same nature as acquiring competence in grammar or syntax. The theoretical and methodological consequences of this view are examined. (GO)

ED112878 IR002588
Piaget, Super 8mm, and Preschool Development.
Brainard, H. Lois
Publ. Date: 11 May 75 Note: 7p.; Paper presented at the Conference on Visual Literacy (Portland, Oregon, May 7-11, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: Child Development/ *Cognitive Processes/ *Early Childhood/ *Films/ Instructional Materials/ Instructional Media/ Perception/ Speeches/ Visual Literacy
Identifiers: *Piaget (Jean)
According to the theory of Piaget, until the age of two the chief developmental factor of a child is the permanence of an object or the ability to retain mental images. Between two and six he begins to use mental images, and as he develops the ability to retain a mental image he begins to imitate things from the past which he has seen or experienced. At this point, the 8mm motion picture film could be used to assist children in moving from sensorimotor reactions to deferred imitation preparatory to the process of learning. Films of themselves would present an image which is abstract, and in order to solve this contradiction children would proceed to a higher level of thinking. Such films may provide a basis for helping children develop language concepts, understand processes, organizine experience, classify objects, and improve visual literacy. (Author/DS)

ED112571 EC073765
A Longitudinal and Comparative Look at Cognitive Development in EMH Children.
Steele, Joe M.
Publ. Date: Mar 75 Note: 23p.; Paper presented at the Annual Meeting of the American Educational Research Association (Washington, D.C., March 30-April 3, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: Child Development/ *Cognitive Development/ *Cognitive Processes/ *Educable Mentally Handicapped/ Exceptional Child Research/ Longitudinal Studies/ Maturation/ Mentally Handicapped/ Problem Solving/ Secondary Education/ *Student Evaluation
Identifiers: Piaget (Jean)
Examined longitudinally were the rate and proportion by grade level of the cognitive development of 202 13- to 16-year-old educable mentally handicapped students. A 20-item written test composed of eight problem solving and 12 cognitive development items representing the concrete I, concrete II, and formal I operations levels of Piagetian theory, was used. Results over a 12 month period indicated that 68 percent of the Ss showed no change in developmental level, 92 percent of those making a gain increased by one level, and 6 percent demonstrated losses. Data suggested that curriculum materials should be appropriate to the student's level of cognitive development, and that measures of developmental level provide more educationally relevant information than IQ scores. (CL)

ED111681 SE019680
Research on Mathematical Thinking of Young Children: Six Empirical Studies.
Steffe, Leslie P., Ed.
National Council of Teachers of Mathematics, Inc., Reston, Va.
Publ. Date: 75 Note: 207p.
Available from: National Council of Teachers of Mathematics, 1906 Association Drive, Reston, Virginia 22091 ($3.90, discounts on quantity orders)
EDRS Price MF-$0.76 Plus Postage. HC Not Available from EDRS.
Descriptors: *Cognitive Development/ Concept Formation/ Elementary Education/ *Elementary School Mathematics/ *Learning/ Learning Theories/ Mathematical Concepts/ *Mathematics Education/ Primary Grades/ *Research/ Thought Processes
Identifiers: *Piaget (Jean)/ Research Reports
This volume includes reports of six studies of the thought processes of children aged four through eight. In the first paper Steffe and Smock outline a model for learning and teaching mathematics. Six reports on empirical studies are then presented in five areas of mathematics learning: (1) equivalence and order relations; (2) classification and seriation; (3) interdependence of classification, seriation, and number concepts; (4) Boolean Algebra; and (5) conservation and measurement. In a final chapter, the main findings of these papers are summarized and implications are discussed, with suggestions for further research. (SD)

ED111601# SE016377
A Study of the Development in Fourth, Fifth and Sixth Grade Children of an Understanding of a Particulate Model of Matter.
Ward, Roger Woodmansee
Publ. Date: 72 Note: 83p.; Ed.D. Dissertation, Cornell University
Available from: University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order No. 73-10,152, MF-$5.00, Xerography-$11.00)
Document Not Available from EDRS
Descriptors: *Concept Formation/ Doctoral Theses/ *Educational Research/ Elementary Education/ *Elementary School Science/ Learning/ *Learning Theories/ Matter/ Science Education/ *Scientific Concepts
Identifiers: *Piaget (Jean)/ Research Reports
The study was designed to determine if chronological age is the main factor in a child's ability to develop a particulate concept of matter. Four demonstrations were organized which consisted of a graded series of particle mixing, gas diffusion, dissolving and smoke investigations. The individualized interviews with children were tape recorded. On the basis of interpretation of the children's responses, it was discovered that children under ten years seemed unable to develop such an abstract conceptualization. An interstage transitional "readiness" was found in ten-, eleven-, and some twelve-year-olds indicating that the full concept requires the Piagetian formal operational stage before behavioral recognition can be made. Factors such as ethnic background, type of school community, sex or basic interest seem not to be significant in the concept development. (Author/PS)

ED111515 PS008064
Problem Solving and Concept Formation: An Annotated Bibliography.
Stern, Carolyn
Southwest Regional Laboratory for Educational Research and Development, Los Alamitos, Calif.
Sponsoring Agency: California Univ., Los Angeles.; Office of Economic Opportunity, Washington, D.C.
Report No.: OEO-4117-SWRL-SR-6
Publ. Date: Jun 68 Note: 120p.
EDRS Price MF-$0.76 HC-$5.70 Plus Postage
Descriptors: Achievement/ *Annotated Bibliographies/ Cognitive Development/ Cognitive Processes/ *Concept Formation/ *Early Childhood Education/ Educational Experiments/ Exceptional Child Research/ *Experimental Psychology/ Intelligence/ Learning Processes/ Learning Theories/ Personality/ *Problem Solving/ Research Methodology/ Socialization
Identifiers: *Piaget (Jean)
This bibliography, made up of approximately 350 entries concerned with many aspects of problem solving and concept formation in young children, has been designed for use by people primarily involved in experimental research in these areas of child development. Entries include experimental journal articles, conference papers, unpublished research papers, books (and specific book chapters), dissertations and literature reviews, which date from 1955 through 1968, and several earlier articles by Piaget. The wide variety of specific topics include: conservation studies and experimental research dealing with Piaget's theories; intelligence, achievement, memory and learning processes; socialization; learning theories; disadvantaged children and minority group differences; handicapped children; conceptual styles; verbal learning; cognitive development; discrimination learning; personality; research methodology; etc. (ED)

ED111510 PS008031
Relative Strengths of IQ, Mental Age and Chronological Age for Predicting Performance on Piagetian Tests.
Jordan, Valerie Barnes; Jordan, Lawrence A.
Publ. Date: Apr 75 Note: 10p.; Paper presented at the biennial meeting of the Society for Research in Child Development (Denver, Colorado, April 12, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: *Age/ Age Differences/ Cognitive Development/ Cognitive Measurement/ *Cognitive Tests/ Conservation (Concept)/ Correlation/ *Elementary Secondary Education/ Intellectual Development/ Intelligence Differences/ *Intelligence Quotient/ *Intelligence Tests/ Mental Development/ Prediction/ Validity
Identifiers: *Piaget (Jean)
This paper reviews studies in which scores on Piagetian tests of logical thought were correlated with IQ, mental age (MA) and chronological age (CA), and examines the possible effects of the size of the age range and mean age of subjects on these correlations. The data included 44 groups of subjects obtained from 36 studies in which Piagetian and intelligence tests were administered to intellectually normal children (mean IQ=109) from the preoperational through formal operational periods (40 to 216 months of age). Results revealed that averaged correlations between Piagetian tests and MA were consistently higher than the corresponding correlations for IQ and CA. The mean age of the subjects and no effect on the size of correlations between Piagetian tests and IQ, MA and CA, but the size of the age range was found to significantly affect the IQ and CA correlations (Piagetian tests/IQ correlations were higher within a narrow age range; Piagetian tests/CA correlations were higher within a wide age range; Piagetian tests/MA correlations showed no effect for size of age range). It was concluded that MA scores yield higher and more consistent correlations with Piagetian tests than either IQ or CA scores, and are not affected by the age range or mean age of the subjects sampled. (Authors/ED)

ED111507 PS008028
Developmental Changes and Interrelationships Among Role-Taking, Moral Judgments and Children's Sharing.
Olejnik, Anthony B.
Publ. Date: Apr 75 Note: 21p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Denver, Colorado, April 10-13, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: *Age Differences/ Altruism/ Cognitive Development/ Correlation/ *Elementary School Students/ *Interpersonal Relationship/ Kindergarten Children/ *Moral Development/ *Sex Differences/ Social Development
Identifiers: *Piaget (Jean)/ Role Taking/ Sharing Behavior
This study investigated the interrelationships among the development of role-taking skills, moral judgments, and sharing behavior of boys and girls in K-3. A total of 160 lower middle class white children (20 boys and 20 girls from each grade) participated in the study. Data were collected on four measures: (1) sharing candy with a friend, (2) role-taking on emotional responses to pictured situations, (3) moral judgments on Piagetian dilemmas with positive or negative consequences, and (4) sharing candy with a stranger. The results indicated that (1) role-taking ability was positively correlated with the use of intentionality in making moral judgments; (2) role-taking ability was positively correlated with sharing with a friend, sharing with a stranger (only for boys), and total sharing; and (3) the use of intentionality in moral judgments was positively correlated with sharing with friends. Both age and sex differences were found. (JMB)

ED111499 PS008014
Young Children's Performance on Traditional and Modified Perspective-Taking Tasks.
Liben, Lynn S.
Publ. Date: Apr 75 Note: 18p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Denver, Colorado, April 10-13, 1975)
EDRS Price MF-$0.76 HC-$1.58 Plus Postage
Descriptors: *Cognitive Development/ *Early Childhood/ *Egocentrism/ Infancy/ *Psychological Studies/ Reaction Time/ *Visual Stimuli
Identifiers: Decentering (Psychological)/ *Piaget (Jean)/ Spatial Relationship (Psychological)
This paper reports two related experiments, the first investigating whether children 3-7 years old demonstrate Flavell's Level-2 perspective-taking in a cognitively simple task, and the second re-examining children's performance on a task comparable to the Piagetian 3-mountain perspective-taking task. The first experiment involved a task which eliminated the usual spatial and representational components of the classic 3-mountain task, but provided conflicting visual experiences for subject and experimenter. The second experiment was designed to examine the child's ability to choose a representation of his own view and views of the experimenter when the experimenter was seated opposite-end to the side of the child. Task variables and types of errors were investigated. Also, response latencies were measured to check whether responses on task were meaningful or indiscriminate. Results indicate that the young child's difficulty on traditional perspective-taking tasks is related to his lack of an integrated Euclidean spatial system and not to a lack of awareness that others have different visual perspectives. (GO)

ED111492 PS007997
The Use of a Piagetian Scale of Development as a Part of Growth Measure of Pre-Kindergarten Children Participating in the Baltimore City Public Schools.
Reid, Ernestine M.
Baltimore City Public Schools, Md.
Publ. Date: 24 Jan 75 Note: 67p.; Paper presented at the Piagetian Society Conference (Los Angeles California, 1975)
EDRS Price MF-$0.76 HC-$3.32 Plus Postage
Descriptors: *Cognitive Development/ *Evaluation Methods/ *Intervention/ *Preschool Education/ *Preschool Evaluation/ Readiness (Mental)/ Reading Readiness/ Reading Readiness Tests / School Readiness Tests/ Test Results
Identifiers: PEM/ *Piaget (Jean)/ Program Evaluation Measure
This paper describes a Piagetian-based evaluation measure and results obtained from the use of this measure with 1260 pre-kindergarten inner-city children. The children were enrolled in a program designed to develop their readiness skills. Family income, limited educational opportunities of adult members of the family, and dependency on public assistance were determinants of qualification for the program. The Pupil Evaluation Measure (PEM) was based on program objectives expressed in Piagetian terms. Each of nine tasks was designed to measure progress towards a more abstract level of cognitive development. Teacher assistants administered PEM to each child 5 times during the school year. Comparisons between October and June test results showed an increase in the proportion of students performing above the semiconcrete/semiabstract level on all nine PEM tasks. Appendices include graphs of PEM scores from the entire year, average pre- and post-test scores on the Stanford-Binet Intelligence Tests given the children, and procedures for administering and scoring the PEM. (BRT)

ED111125 EC073412
Case Studies of Two Down's Syndrome Children Functioning in a Montessori Environment. Research Project.
Schramm, Barbara J.
Publ. Date: Apr 74 Note: 61p.; Master's Thesis, University of Dayton
EDRS Price MF-$0.76 HC-$3.32 Plus Postage
Descriptors: *Case Studies/ Child Development/ *Educational Methods/ Exceptional Child Education/ Females/ Mentally Handicapped/ *Mongolism/ Preschool Education/ *Program Effectiveness/ *Regular Class Placement/ Teaching Methods
Identifiers: *Montessori Method/ Piaget (Jean)
Presented are case histories of two Down's Syndrome (Mosaic form) 6- and 10-year-old girls who attended regular Montessori classes. General characteristics of Down's Syndrome and other retarded children are reviewed and compared with the two girls' growth and development (according to Piaget's proposed stages). The Montessori emphasis on sensorial activities and on individual freedom to choose tasks is seen to enhance the retarded child's development. Analyzed are the girl's progress in such skill areas as language, reading, and math. The children are said to be functioning in Piaget's preconceptual and intuitive stages. Emphasized is the need for an approach which includes raised social and academic expectations along with instruction in independence and self-direction. An appendix lists suggested Montessori materials and activities for handicapped children. (CL)

ED110936# CS002088
Relationship Between Reading Achievement and Piaget's Conservation Tasks for Beginning Second Grade Students.
Stanfill, James Wesley
Publ. Date: 75 Note: 113p.; Ed.D. Dissertation, University of Southern California
Available from: University Microfilms, P.O. Box 1764, Ann Arbor, Michigan 48106 (Order No. 75-15,581, MFilm-$5.00, Xerography-$11.00)
Document Not Available from EDRS
Descriptors: *Beginning Reading/ *Cognitive Development/ *Conservation (Concept)/ Doctoral Theses/ Grade 2/ Primary Education/ *Reading Achievement/ *Reading Processes/ Reading Readiness/ Reading Research
Identifiers: Piaget (Jean)
In order to determine if there is a relationship between reading achievement and the ability to conserve as measured by replications of Piagetian conservation tasks, 160 beginning second-grade students were identified as achievers or low achievers according to reading and intelligence test scores, and their performance on the Piagetian tasks was correlated with their achievement scores, years of formal school, sex, chronological age, and socioeconomic status. A significant relationship between the ability to conserve and reading achievement was found for the achiever group (N = 121) and the combined sample (N = 160). A significant relationship was found between the ability to conserve and socioeconomic status and between the ability to conserve and sex for both the achiever group and combined sample. The ability to conserve was found to be significantly related to socioeconomic status for the low-achiever group. The following were among the conclusions drawn: a conservation task seems to be an appropriate measure to use in diagnosing a student's readiness to read if used in conjunction with other data, and it would appear that the formal teaching of reading should not precede the child's ability to conserve. (Author/MKM)

ED110335# SE019157
The Construction and Validation of an Objective Formal Reasoning Instrument.
Burney, Gilbert McCollum
Publ. Date: 74 Note: 138p.; Ed.D. Dissertation, University of Northern Colorado
Available from: University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order No. 75-5403, MF-$5.00, Xerography-$11.00)
Document Not Available from EDRS
Descriptors: Cognitive Development/ Doctoral Theses/ *Learning Theories/ *Logical Thinking/ *Mathematics Education/ *Research/ Secondary Education/ Secondary School Mathematics/ Test Construction/ *Test Validity
Identifiers: *Piaget (Jean)/ Research Reports
The purpose of this study was the development and validation of a paper-and-pencil instrument to assess the formal stage of development as defined by Piaget. Initially, a 42-item test was constructed; item content included syllogisms, verbal analogies, combinatorial and probabilistic reasoning, and questions similar to Piagetian tasks. This instrument was administered to a group of 50 students in grades 9, 11, and 13, together with 5 individually administered Piagetian tasks. Biserial coefficients, based on performance on the 5 tasks, were used to estimate item validity. On the basis of these estimates, 24 items were selected for the final form which was administered to 78 students in the same grades, again with the 5 tasks. Biserial coefficients were computed to estimate internal consistency and item validity. Concurrent validity calculated by the Pearson r for the objective test with the tasks was .853. Reliability computed by Kuder-Richardson formula 20 was .825. The most valid items proved to be verbal analogies and certain items derived from Piagetian tasks. (Author/SD)

ED110190 PS007986
Pre-Kindergarten Program Evaluation.
Petrie, Thomas A.; And Others
Hamburg Central School District, N.Y.
Publ. Date: Jun 74 Note: 81p.; Appendix D, the Denver Developmental Screening Test, is copyrighted and therefore not available. These two pages are not included in the pagination
EDRS Price MF-$0.76 HC-$4.43 PLUS POSTAGE
Descriptors: Cognitive Development/ *Compensatory Education Programs/ *Early Childhood Education/ Language Development/ Motor Development/ Peer Relationship/ *Preschool Children/ *Program Descriptions/ *Program Evaluation/ Screening Tests/ Social Development/ Student Teacher Relationship/ Tape Recordings/ Teaching Techniques
Identifiers: Erikson/ *New York (Hamburg)/ Piaget (Jean)
This report contains a description and evaluation of a program for prekindergarten children who are identified as needing compensatory or corrective treatment. The program, in operation for nearly 8 years, can accommodate 60 children. Description of the instructional program was obtained through participant observation, photography, and audio tape analyses of teaching skills which facilitated children's social and cognitive development. Participant observers concentrated on interaction patterns among children and between children and teachers. The description reveals that the predominant instructional skills were telling, explaining, clarifying, and questioning (these terms are defined). Student outcomes were assessed using the Denver Developmental Screening Test and the Cognitive, Speech and Language sections of the Evanston Screening Packet. Prekindergarten children did significantly better on two of the 32 tasks of the DDST; while children without prekindergarten did significantly better on four of them. It was felt that the program successfully modified and reduced deficiencies that may have existed in the experimental children. Recommendations are made. Appendixes (nearly one-half of the report) include a rationale for descriptions of the instructional program and copies of the screening instruments used. (Authors/ED)

ED110186 PS007981

Logical Operations Instruction in the Preschool. Final Report--Hatch Research Project 142-1769, July 1st, 1971, to August 30th, 1974.

Bingham-Newman, A. M.; And Others

Wisconsin Univ., Madison. Div. of Early Childhood Education.

Publ. Date: 30 Aug 74 Note: 132p.; Summary of dissertations by Ann Bingham-Newman and Ruth Saunders, University of Wisconsin; For the interim report, see ED 078 912

EDRS Price MF-$0.76 HC-$6.97 PLUS POSTAGE

Descriptors: *Cognitive Development/ *Comparative Analysis/ *Curriculum Development/ *Curriculum Evaluation/ Developmental Tasks/ Experimental Curriculum/ Intellectual Development/ Learning Theories/ Preschool Curriculum/ *Preschool Education/ Preschool Programs/ Statistical Analysis

Identifiers: *Piaget (Jean)

This study attempted to develop, implement, and evaluate an experimental preschool education program based on Piaget's theory of cognitive development. A further goal was to examine Piaget's theoretical assumptions and postulated cognitive developmental trends for a 2-year period of the preoperational substage. A total of 48 3- to 5-year-olds participated in the project for the full 2-year period. Half the children attended the experimental Piagetian preschool and half attended a conventional preschool program. Evaluation measures used were the Peabody Picture Vocabulary Test, the RAVEN Coloured Progressive Matrices, and eight representative Piagetian tasks on seriation, classification, transitivity, conservation, measurement, and class inclusion. Normative longitudinal and cross-sectional analyses were used to examine data within the general area of the acquisition of cognitive abilities; within-stage intraindividual performance correspondences, developmental sequences in task performances, experimental/control group comparisons, and sex differences in task performance. The results suggested that although Piagetian theory provided a very workable and stimulating foundation for a preschool curriculum, program effects in this research were overshadowed by the large degree of individual variation in the rate and sequence of cognitive developmental acquisitions in the preoperational stage. (JMB)

ED110173 PS007947

The Role of Experience in Cognitive Development.

Schwebel, Milton

Publ. Date: 24 Jan 75 Note: 33p.; Paper presented at the Invitational Interdisciplinary Seminar (5th, University of Southern California, January 24, 1975); Not available in hard copy due to poor reproducibility of original document

EDRS Price MF-$0.76 PLUS POSTAGE. HC Not Available from EDRS.

Descriptors: Classification/ *Cognitive Development/ Cognitive Processes/ Conservation (Concept)/ Educational Experience/ *Educational Research/ *Elementary Education/ Individual Differences/ Intervention/ *Learning Processes/ Literature Reviews/ Logical Thinking/ Slow Learners/ *Teaching Techniques

Identifiers: *Piaget (Jean)

This paper presents a discussion, based on current research, of what can be done to help children achieve the highest level of cognitive development (Piaget's formal operations). The four factors which Piaget found to be involved in cognitive development are discussed in relation to recent research. These factors include: (1) organic growth and maturation, (2) exercise and acquired experience in action on objects, (3) social interaction and transmission, and (4) equilibration (self-regulation). Ten applications derived from theoretical research pertaining to these fundamental factors are presented as they relate to the development of training programs and teaching techniques appropriate in helping children achieve fuller cognitive development. Topics include the nature of the learning process, social interaction, teacher expectations, the value and structure of intervention programs, the degree to which children's thinking is subject to adult influence, and mastery learning. (ED)

ED110159 PS007912
Why Group Games? A Piagetian Perspective.
DeVries, Rheta; Kamii, Constance
ERIC Clearinghouse on Early Childhood Education, Urbana, Ill.
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Descriptors: *Childrens Games/ Cognitive Development/ *Educational Theories/ *Egocentrism/ Emotional Development/ Group Activities/ Learning Motivation/ Logical Thinking/ *Mental Development/ Moral Development/ *Preschool Education/ Social Development
Identifiers: *Piaget (Jean)
A Piagetian perspective is used to build a rationale to explain why group games are good for young children. Three major areas in which group games might foster children's development are discussed. In the socioemotional area, the rationale is that moral development, personality development, and autonomy are enhanced by the social context of peer cooperation which group games necessitate. In the cognitive area, group games are said to contribute to the development of logical thinking by forcing children to come out of their egocentricity and to coordinate different points of view. In the area of motivation, the rationale is that children spontaneously engage in group games so that such games must be naturally motivated and can therefore be powerful classroom tools. Several competitive and noncompetitive games are discussed specifically and five criteria for good games are suggested. (JMB)

## Postscript

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